ne Iron A

A Review of the Hardware, Iron and Metal Trades.

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New York, Thursday, November 27, 1879.

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none which so sorely needs the strongest and most carefully directed efforts to secure it a lease of life in many localities, than puddling. While we do not believe, as some metallurgists declare, that in a few years we will see the extinction of every puddling furnace in this country, we feel convinced that it is only by the strictest economy, and the introduction of many improvements, that a large portion of the plant now in active operation can be made to resist the strong competition of modern steel processes. It is with the object of pointing out by what simple means the excessive waste of fuel in rolling mills can be considerably reduced, that we place before the readers of The Iron Age the accompanying illustrations of an improved puddling furnace, invented by Mr. Jawood Lukens, of Messrs. Allen, Wood & Co., Schuylkill Iron Works, Conshohocken, Pa. Rolling mill men have for many years shown a strange apathy in regard to the introduction of improvements, but, as we have remarked above, competition will soon force them to adopt eagerly every means of reducing the cost of their products. Mr. Lukens' improvements are not so striking as a novelty, but for the extreme simplicity of inexpensive changes, which we are assured have yielded very favorable results, and they meet a strong argument which might be urged against alterations of plant—that in the present transition state it would be folly to sink capital in improvements which might to a few years be rendered useless.

The plates represent a puddling furnace

which might in the present a pudding furnace of the improved kind, the operation of the furnace being as follows: Air under pressure is admitted to the ash-pit I, and part of it passes up through the grate in the usual way, carrying a volume of gases, smoke and flame over the bridge wall b, while another part ascends by means of the series of vertical pipes h, built in the walls of the fire-chamber, to the air-chamber P on top of the furnace, from which it enters at a high temperature through the inclined tuyers; into the working chamber E, and striking the current of gases and smoke passing over the current of the current of gases and smoke passing over the current of the current of t The well-known pioneer in the introduction of safety fuses for blasting in mines and duarries, Blekford, has introduced and ditches are sometimes continuous from the walls of the furnace, and pass from there into the sab-pit after becoming centhere into the sab-pit after becoming the combustion; and, secondly, that of ingression; and, secondly, that of ingression; and, secondly, that of ingression; and, secondly, that of ingression.

fuel and that for completing the combustion; and, secondly, that of increasing the life of the parts of the furnace by cooling them. These furnaces have been in use in Schuylkill Iron Works, Conshohocken, Pa., for more than a year, and the result of many trials has shown a saving of fuel of from 20 to 40 per cent. of from 20 to 40 per cent. (averaging 25 per cent.) compared with the same a saving of "fix" of from 5 to 10 per cent.; less waste of metal in puddling, the difference averaging

about 2 per cent, of the charge; a lengthened service of the brickwork, a vice of the brickwork, a saving in time and labor and an improve-ment in quality of product. In heating furnaces the blowing over of coal dust on to the iron, and consequent damage to it, is

largely prevented.

We are informed that an ordinary furnace can be altered to one of this kind at a small expense, not exceeding \$25, and only two or three days' time is required to do the work of three days time is required to do the work of alteration; it does not call for any change of foundations or plates, but only the rebuilding of the fire chamber with the changes shown. The iron parts used in the construction are not damaged, but remain in good order after months of service. The saving in the cost of manufacture depends of course on the prices of materials, but it is claimed that it is not less than \$1 per ton

The Price of Rails and the Railroads.

SCIENTIFIC AND TECHNICAL.

A Western railroad engineer, Mr. A. E. Buchanan, has devised a method for CONSTRUCTING RAILROAD DITCHES

cent meeting of the Institution of Engineers and Shipbuilders, of Scotland, a paper de-

LOCKWOOD'S PISTON PACKING,
which has a spring ring, designed to press
the packing rings outward against the walls
of the cylinder, and at the same time to press the rings apart against the flat faces, each motion being independent of the other. In

Lukens' Improved Puddling Furnace.

There is, perhaps, no branch of metallurgy which has been less progressive, and none which so sorely needs the strongest and most carefully directed efforts to secure

quotations were \$20 per ton, but late ones of the teeth to the auditory nerve. Whenever deafness is the result of paralysis of the teeth to the auditory nerve. Whenever deafness is the result of paralysis of that nerve, the instrument cannot of course true, but most of the iron in the original and most carefully directed efforts to secure

There is, perhaps, no branch of metallors are \$20 per ton, but late ones of the teeth to the auditory nerve. Whenever deafness is the result of paralysis of that nerve, the instrument cannot of course that nerve are deafness is the edulatory nerve. Whenever deafness is the result of paralysis of that nerve, the instrument cannot of course that never deafness is the found of the teeth to the auditory nerve. Whenever deafness is the result of paralysis of that nerve, the instrument cannot of course that never deafness is the found of the teeth to the auditory nerve. Whenever deafness is the found of the teeth to the auditory nerve. Whenever deafness is the result of paralysis of the teeth to the audit which acts as a reflector, being of conical form, with a wide mouth, and having at the focal point a trough, in which is placed the combustible material, such as strontium, which, in burning, gives out a bright light. The reflector is so placed that it throws the light of the burning substance upon a vol-ume of steam issuing either from the ship's funnel or from a special outlet provided for that purpose. If it is desired to give optical signals by flashing lights according to any known code of signaling, such as by combi-nations of flashes of longer and shorter duthrough the flat country adjoining the track. On a common flat car a framework is laid, from which arms are suspended on one side, and to which, at the outer extremity, a plow weighing about 2000 pounds is attached; a derrick attachment from the car raises and lowers the plow as desired. By means of this "ditcher car" and attachments, Mr.

followed an interesting experiment tending to show what an exceedingly rapid rate of combustion was obtained with this fuse. A length of 60 feet was spread out on the ground and fired by means of the safety fuse at one end. On the fire reaching the instantaneous fuse the combustion of its whole length immediately followed, scarcely any perceptible time, certainly not a second, being occupied. The fuse burns with a kind of explosion, but with very little violence.

Prof. Proctor, whose lectures on astron-my in this city have attracted much deserved attention, predicts

AN INTERESTING SHOWER OF METEORS

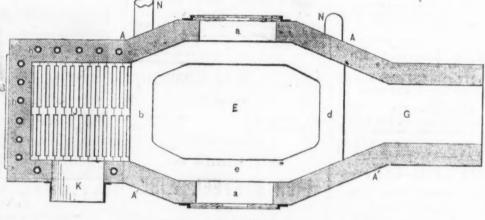
n some night between November 25th and December 1st. The origin of this display of shooting stars is peculiar, and, as Otto Struve, the famous German astronomer, has remarked, nothing has thrown more light on the subject of comets and their relation to meteors than the history of Biela's comet. In 1826 Biela discovered a comet, the path of which was calculated by Gambart, a French astronomer, who found that it revolved around the sun in a period of 624 years. It was seen again in 1832, but when it became again visible in 1846, it was found that it had divided into two distinct comets, that it had divided into two distinct comets, each having coma, nucleus and a short tail of its own. In 1852 both returned, but the distance between them was greatly increased. In 1859 the comet was not visible, on account of its being so situated as to be lost in the sun's rays. In 1866 it should have been seen again, but, although it was searched for carefully by a number of skill-ful observers it was not seen and the only. ful observers, it was not seen, and the only conclusion was that the comet had suffered further disintegration. It was not seen further disintegration. It was not seen again in 1872, but, as its path passed very close to the track of the earth, meteors following the path of Biela's comet would be attracted, appearing as a shower of shooting stars radiating from the constellation of Cassiopeia. This did actually take place, the display equaling fully any witnessed for a great number of years. On November 27th Prof. Grant, of the Glasgow Observatory, counted no fewer than 10,579 meteors between half past four p. m. and 10 minutes between half past four p. m. and ro minutes to 12, and four Italian observers counted, in 6½ hours, 23,400 shooting stars. Some doubt was, however, thrown upon the identity of this shower with Biela's comet, by the fact that on December 2d Poyson detected pass Theta Centenni two cloud.

Pushing a Bridge Across a River.—A not-able feat in engineering was brought to successful issue in the latter part of September, at Dinard, France. In carrying a railway across the river Rance, the novel plan was

Rance, the novel plan was adopted of building the bridge on shore and boldly

pushing it bodily across the stream. The bridge weighed 2,600,000 pounds, its hight above the river was 100 feet, and the length of the main span

314 feet. Twelve



ponding intervals. The cover is provided with holes to allow of the continued burning of the combustible while it is closed. By means of this apparatus the steam is made to become highly luminous, and the color can be varied by varying the nature of the combustible substance used. It is stated that the forest the stated of the combustible substance used.

that so far the experiments have proved highly satisfactory.

The well-known pioneer in the introduc-tion of safety fuses for blasting in mines and quarries, Bickford, has introduced

Fig. 3 .- Cross Section.

Fig. 2 .- Vertical Section.

LUKENS' IMPROVED PUDDLING FURNACE.

ville, Pa., use

for the columns of a portion of the Elevated Railroad, which presents some features of interest. The columns are fitted with cast interest. The columns are fitted with cast iron bearing, the lower surface of which is spherical, and rest in an iron socket plate; the object of this improved construction being to secure a full bearing of the column on the bed plate, and permit its moving slightly in any direction without throwing too heavy a strain on any portion of the edge.

Prof. J. W. Graydon, of Cincinnati, Ohio, claims to have invented a very simple instrument called

THE AUDIPHONE

which is intended to assist deaf people to

sion downward begins. After the junk ring is firmly screwed up, a hoop-iron gland may be applied round the packing rings to draw them into the diameter of the cylinder, so as to enable them to enter. The gluts or tongue pieces are made the whole of the width of the face, so that they cannot get out. In the discussion which followed, several terms of the contract o eral engineers present gave the results of their experience, which was pronounced to

Mesars. Clarke, Reeves & Co., of Phosnizrille, Pa., use

AN IMPROVED SPHERICAL FOUNDATION
PLATE
or the columns of a portion of the Elevated
Railroad, which presents some features of
interest. The columns are fitted with cast
ron bearing, the lower surface of which is
pherical, and rest in an iron socket plate;
he object of this improved construction beng to secure a full bearing of the column
at the bed plate, and permit its moving
lightly in any direction without throwing

would suffice for the work
of putting the bridge in
place, but owing to the
electrical apparatus used exclusively hithtested recently before the Mining Institute
of Cornwall. It consists of a little cylindricloser together, and permitted just to touch
ack to the roll of the packing rings are gradually
distended by the points of the spring ring
acting upon an inclined plane, until it comes
upon the protecting flanges, when compression;
the other a set of instantaneous fuses, which
may be of any number of holes required to be
blasted. Between the end of the safety fuse
and the ends of the instantaneous fuses is inserted an explosive disk, the action of which
is
firstly available. is such that on the communication of fire from the safety fuse, the whole of the instantaneous fuses are immediately ignited.
The igniter tested contained eight instantaneous fuses, an average number for ordinary neous fuses, an average number for ordinary mining, and the simultaneous effect of the ignition was at once seen and considered satisfactory. On commencing to show a second similar set, it was suggested by one of the gentlemen present that detonating caps be attached to the end of the instantaneous fuses, so as to enable the company better to judge of the absolutely instantaneous discharge of the quick fuses. Caps were accordingly attached to the instantaneous fuses, which had been purposely constructed The Price of Rails and the Railroads.

Which is intended to assist deaf people to Gazette, although we modify the figure of any length desired. At its state of the market: The rise in prices of any length desired. At its other of any length desired. At its state of the market: The rise in prices of any length desired. At its other of any length desired. At its pose, considering that steel rails, which were quoted at \$43 per ton in January, are now \$50 to \$65, and irror rails that were the microphone will be heard. In experiments made with a number of school children who fan that when a company have to renew that when a company have to renew that when a company have to renew the interest they have not only new rails to be favored their tracks they have not only new rails to be provided at \$100 to \$100 to

lasses were used in rolling the bridge into posi-tion. It was calculated that four or five days would suffice for the work

capitulate, since it has capital and labor and the great cost of transportation from inner America to Europe on its side. M. Beauliu urges legislators to reduce the duties on iron which enhance the expenses of French tillers. The spirit of association, he says, must be fostered. He does not doubt that when again France enjoys the benefit of propitious weather she will manfully hold up

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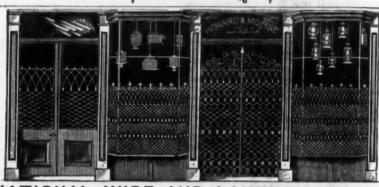
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Are Stresses Undulatory in Their Action?

menter, is often a desideratum as great as the result obtained. The value to physical science of the experiments of Dr. Thomas Young, by which the previous anti-cipation of Huyghens as to the undulatory repation of ruygness as to the undulatory motion of light was confirmed, is incalculable. The knowledge which these experiments developed of the means by which light reached us opened a new field of thought and experiment, both directly and by analogy, while it had also the effect of setting right those wandering from the truth is the conice. wandering from the truth in their conjec-tures and experiments, and thus gave to the newly opened field the workmen necessary to develop it.

So far as light, heat and sound are concerned, considering them as various evidences of energy, I think the undulatory theory generally accepted. During a long series of experiments on the effect of differtheory generally acceptance to the effect of different stresses upon iron, several peculiarities. State and local legislatures by the federal Constitution:

I think will suggest some thoughts on this subject. They are given below. There will be found many evidences of an interwill be found many evidences of an interfeit of the federal Constitution:

Any person or persons who shall knowingly and willfully forge or counterfeit, or cause to procure to be forged or counterfeited any representation, likeness, similitude, copy or imitation of the private stamp, and copy or imitation of the private stamp. subject. They are given below. There will be found many evidences of an intermittent rather than a steadily progressive action, although the stress itself was always steadily applied.

EXPERIMENT I.

Effect of a Welding Heat upon Concentric Layers

	1	١.	B		C.		
	Specific gravity.	Nature of action.	Specific gravity.	Nature of action.	Specific gravity.	Nature of action.	
rst density	7.663 7.677 7.670	pos. neg.	7.646	neg. pos. neg.	7.679 7.692 7.681	neg. pos. neg.	
th	7.689	pos. neg.	7.656	pos. neg.	7.686	pos.	

It must be remembered that the peculiarities here mentioned were developed accidentally, not sought after. In this experiment the object sought after was to learn the effect at a welding heat upon iron. (See article in *The Iron Age* of January 23, 1879). The density of the whole sample, after treatment having head the state of ment, having been determined, part of the exterior shell was taken off and the density of the remaining sample was determined. This operation was repeated until the internal core was reached. It will be seen that while the general action was decided in its tendency to an increase of density, that increase, instead of being steadily progressive in its path upward, was intermittent and alternate in its progress.

EXPERIMENT II. Effect of Rupture upon Concentric Layers of Iron

	A	L.	I	3.	C.		
	Specific gravity.	Nature of action.	Specific gravity.	Nature of action.	Specific gravity.	Nature of action.	
st density	7.472 7.482 7.478	neg. pos. neg.	7.569 7.583 7.569	neg. pos. neg.	7.634 7.645 7.638	neg. pos. neg.	

In this experiment the remarks made prethis experiment the remarks made previously also apply. The experiment was conducted in precisely the same manner, save that the stress was that produced by tension instead of heat. We again see evidence of the intermittent action alluded to. The fact that it is again produced by force so different in its nature is interesting.

EXPERIMENT III.

EXPERIMENT III.

Tature of Elongation in Successive Periods on
Iron being Subjected to a Long-continued and
Steady Stress by Tension. Duration of Stress,
36 hours.

	ension eq. inc			r													Elong. in inches	Nature of action.
_	41,350		,				,										.163	neg.
	6.0	0		٠	0	,		۰	0	0	٥		6		. ,	.]	.864	pos.
	8.0								٠								. 163	neg.
	4.6																. 164	DOS.
	9.6																. 162	neg.

In the above experiment the stress upon the beam of the machine was constant, and the extent of elongation carefully read at inthe extent of elongation carefully read at in-tervals. The long duration of stress and great amount thereof, would point, I think, to something more than the ordinary action of elasticity. Upon increasing the stress to 43,000 lbs., sectional flow set in, and hence the elongation ceased to be a measure of the point in question. Again we find evidences, under a totally different kind of stress, of the action before noted

under a totally different kind of stress, of the action before noted.

In an article upon "The Effect of Sec-tional Cohesion upon the Rupture of Rolled Iron" (The Iron Age, December 26, 1878, un-der "Experiment F"), I called attention to evidence of a peculiar reaction or alterna-tion in the action of stress upon iron, so de-cided in its nature as to affect the beam of the machine the machine.

the machine.

Again, in an article before alluded to (The Iron Age, Janurary 23, 1879), the same action was commented upon under the first experiment there quoted. It is not unlikely that in both cases the action noted had some bearing upon the point under discussion.

In the report of progress of the Committee on the Elasticity of Wire of the British Association, peculiarities bearing closely upon those we have been discussing are noted. They say:

"It is found, during the breaking of these wires, that the wire becomes alternately

stress applied in different ways, evidence of an action pointing always to an intermittent

Our knowledge of the behavior of iron under stress, has developed many peculiarities which have called into play and rendered necessary for their proper conception all the skill of the theorist. An insight into the means by which force achieves the results evident to the senses of the experimenter, is often a desideratum as great as undulatory, and the conclusion to be derived from these experiments would be, perhaps, of as much use in the development of one's know ledge of many points now obscure in the effect of stress upon iron, as were Dr. Young's experiments in developing the knowledge appertaining to the science of light and its kindred subjects. It might, perhaps, be of even more practical use

Trade Marks in New York.

The following provisions of law will be found in the Revised Statutes, and were in force before there were passed Senator Conkling's trade-mark federal statutes, which have been recently declared unconstitutional by the United States Supreme Court because the preserve and invidiction in Court, because the power and jurisdiction in question were solely reserved to the various State and local legislatures by the terms of

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affixed or intended to be affixed as the work, goods, manufacture, compound or preparation of such mechanic, manufacturer, druggist or tradesman, shall, upon conviction thereof, be deemed guilty of a misdemeanor, and shall be punished by imprisonment in in the county jail for a period not less than six months, or fined not more than \$5000.

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manufactured, prepared or compounded
by him or them for the purposes of making
impressions, or selling the same when made
or using the same upon any other article
made, manufactured, prepared or compounded, and passing the same off upon the
community as the original goods, manufactures, preparations, or compounds of any
other person or persons, or who shall, so in
fact sell or use the same, or who shall
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ters, porter, ale, cider or small beer in bot-tles with their rames or other marks stamp-ed thereon, may file, in the office of the Secretary of State and of the clerk of any county in which such articles shall be bottled or sold, a description of the names and marks so used by them, and cause the same to be printed for six weeks successively in a weekprinted for six weeks successively in a weekly newspaper published in such county, except the city and county of New York,
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the same term in two daily newspapers published in said city.

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person or persons hereafter, without the
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"It is found, during the breaking of these wires, that the wire becomes alternately more yielding to stress applied. Thus, from weights gradually added between 28 lbs. and 21 or 22 lbs., there is a very little yield-of such owner thereof, or to fill the same more yielding to stress applied. Thus, from weights gradually added between 28 lbs. and 31 or 32 lbs., there is a very little yielding and very little elougation of the wire. For equal additions of weight between 33 lbs. and about 37 lbs., the elongation is great. After 37 lbs. are put on, the wire appears to get stiff again till a weight of 40 lbs. has been reached. Then there is rapid running down until 45 lbs. has been reached. The wire then becomes stiff again, and often remains so until it breaks."

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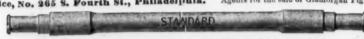
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of the unlawful use and purchase of such bottles, and any such owner, or the agent of such owner, who shall make oath or affirma-tion before any magistrate that he has reason to believe, and does believe, that any of his bottles stamped and registered as aforesaid are being unlawfully used by any person or persons selling or manufacturing mineral water or other beverages, or that any junk dealer or vender of bottles shall have any of such bottles secreted upon his premises or in any other place, then the said magistrate shall thereupon proceed to obtain the same under the existing provisions of law in relation to search-warrants, which are hereby declared to fully relate to the pur-poses of this act; and the magistrate shall poses of this act; and the hard power, in a summary way, to bring or cause to be brought before him the person in whose possession the said bottles may have been found; to examine into the circum stances of his said possession, and if he shall stances of his said possession, and if he shall find, on summary examination, that said person has disobeyed or violated any of the foregoing provisions, the magistrate shall proceed to impose the fine, and if the same be not paid, to commit said person to prison for a term not to exceed 15 days.

Any person or persons who shall, with intent to defraud any person or persons, body corporate or politic, knowingly affix, or cause to be affixed, to or upon any bottle, case, box or package containing any goods, manufacture, preparation or compound, any

for the sale therein of any mineral water or other beverage, shall be presumptive evidence

manufacture, preparation or compound, any stamp, brand, label, wrapper, imprint or mark which shall designate such goods, manufacture, preparation or compound, either wholly or in part, by a word or words which shall be wholly or in part the same to the eye, or in sound to the ear, as the word or words or some of the words used by any other person or persons for designating any goods, manufacture, preparation or compound, manufactured or prepared by or for such other person or persons, or who shall be according to the control of the such other person or persons, or who shall knowingly sell or expose, or offer for rale any such bottle, case, box or package with any such stamp, brand, label, wrapper, imprint or mark affixed to or upon it shall, provided such person or persons so affixing or causing to be affixed any such stamp, brand, label, wrapper, imprint or mark, or so selling or exposing or offering for sale any such bottle, case, box or package, shall not have bottle, case, box or package, shall not have been the first to employ or use such words to designate wholly or in part any goods, manufacture, preparation or compound, upon conviction thereof be deemed guilty of a misdemeanor, and shall be punished by im-prisonment in the county jail not less than six months nor more than twelve months, or to be fined not more than \$5000, and shall also be liable to the party aggrieved in the penal sum of \$100 for each and every offense, to be recovered from him in any court of law in this State.

An English Estimate of the Course of the American Iron Trade.

We take the following very amusing arti-cle from the Engineer, of London, issue of October 31 :

October 31:

Every one in the iron-making districts is asking: Will iron keep up its price? Will it be dearer? Will it be cheaper? Various replies are given in accordance with the characters of individuals, and with their knowledge of the subject concerning which they speak. The optimist holds that iron will be dearer, and if he has money he buys pig warrants for the rise. The pessimist holds that it will fall that the present deaded that it will fall that the present deaded that it will fall that the present deaded that it will fall that the present deaded. will be dearer, and it he has money he only pig warrants for the rise. The pessimist holds that it will fall, that the present demand is but temporary; so he realizes. But, whether optimist or pessimist, all are agreed that the purchase of iron by the United States is a very good thing, and that, if nothing else is gained, it will be something to clear stocks out of Messrs. Connal's stores. In order to arrive at anything like a just conclusion on the subject, it must be approached without prejudice, it must be approached without prejudice, and dealt with impartially. If all the facts were known it would be possible to speak with some approach to certainty concerning the future. Some of the conditions affecting the demand for iron in the United States are understood. What no one can discount is the temper of speculators in America. If these men continue to hold sanguine views, and if the public continue to believe in them, insoluble Silicious Matter is a Limestone. 10.00 or each additional constituent. 20.00 or the per cent. of Water, Volatile Combustible Matter, fixed Carbou, and Ash in Coal. 12.50 demand for iron become permament—permanent at least in the sense that it will enthe other hand, speculators become disheartened or fraudulent, or if the popular faith in them should die out, and if their railroads are not wanted, the demand for railroads are not wanted, the demand for iron will fall off at once, and prices will tumble down. Many persons whose opinions are entitled to much consideration hold, we are aware, different views. They regard the present demand for iron as being perthe present demand for iron as being perfectly legitimate, and as having nothing to do with speculation. If this is really the case, then one of the English ironmaster's risks is removed, and he may go on his way rejoicing, certain that the demand will not growless, and may extend. Let us consider whether this opinion is or is not based on facts, whether in a word it does or does. facts; whether, in a word, it does or does not represent the whole truth. Pig iron is now being bought freely in

England, because the United States cannot make as much as is wanted. All the furnaces in the States put together cannot produce as many tons of pig iron in any one mouth as American consumers wish to buy mouth as American consumers wish to buy in the same time. The pig iron is wanted more to make rails than anything else, although a great demand has sprung up for piping of all kinds. Thus gas and steam piping are 150 per cent. dearer than they were two months ago; boiler tubes have doubled in price, and oil well tubes and linings are very dear. There are oally 30 converters in the whole of the United States, and these converters are now, and have been for some time past, running to the utmost of their capacity. It seems, however, that they cannot be kept supplied with pig, unless puddling furnaces and Siemens-Martin furnaces are to go without. Not only is pig being bought here for the States, cargoes of rails also find their way across the Atlantic. E O R S A ...

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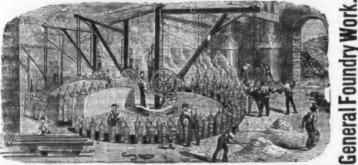
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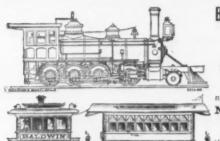
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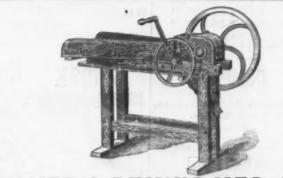
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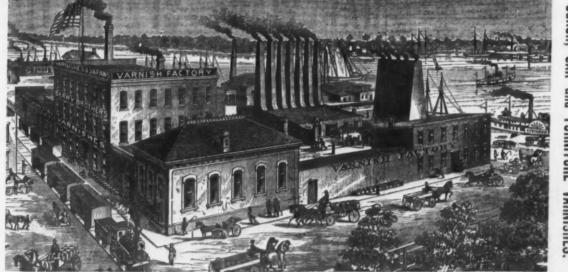


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desire to make new railways or to relay old It is said that 2000 miles of new railways are projected, and will be made within the next 12 months Since the 1st of Janu-ary 2507 miles have been made, against 1422 reported for the corresponding period in 1878; 2000 miles more would give a total of 4507 in a year and nine months, and it is not at all improbable that this total will be exceeded. Assuming the 2000 miles of railexceeded. Assuming the 2000 miles of railway yet to be made to be all single lines, they would require for their construction not much less than 22,000 tons of pig iron. The relaying of old roads may demand as much more. A great proportion of the new lines will probably be double, and iron will be required for bridges, chairs, spikes, and so on. Allowing for all this, we shall probably not be very wide of the mark if we take it for granted that, for railway purposes, the United States will use during the next 12 months 75,000 tons of iron. Now, clast year the United States made about 2,580,000 tons of pig iron. Assuming that 2,580,000 tons of pig iron. Assuming that the demand for other purposes than railways is slightly augmented, we may put down the normal consumption of iron in the States for the next 12 months to come at 2,700,000 tons. In addition to this we have the abnormal or speculative demand, 750,000 the abnormal or speculative demand, 750,000 tons, making a grand total of 3,450,000 tons. Confessedly these figures are very much guess work. They cannot be otherwise, until we know exactly how many miles of new rails are required. But we can compare them with statistics of the past, and learn something from the comparison. The learn something from the comparison. The United States used more iron in 1872 than produced 2,854,000 tons, and this fell short of the demand by 893,000 tons, which were imported from Great Britain. We have put the demand for the ensuing year at 750,000 tons, or 1,13,000 tons less than it was in 1872. It may be urged that this is too great a difference, and that the United States will a difference, and that the United States will certainly want as much iron in 1879-80 as they did in 1872. This remains to be seen; but even should this be the case, we shall be asked to sell them less than 900,000 tons, because it is certain that the American ironmasters can, if they feel so disposed, supply as much iron in 1879-80 as they did in 1872. On the most favorable assumption, therefore it would appear to be wrong to therefore, it would appear to be wrong to count upon selling more than say 900,000 tons to the United States in the time specified. It will be much safer to assume that the demand will reach 750,000 tons only, and it is quite possible that it may not nearly reach that weight. We have now to consider another and a

We have now to consider another and a very important point. Could Great Britain supply America with \$00,000 or 900,000 tons of iron within the next 12 months, without leaving her own wants and those of India and the colonies and other countries to some extent unsatisfied? We venture to think she could not. There is reason to think that a very layer proportion of the think that a very large proportion of the 350,000 tons or so of stock in this country has been already sold; so it will not be safe to count too much upon reserves. In 1872 we bad a very large number of blast furnaces in full swing, which have since been let out. We had also an enormous capital embarked in ironworks which has since been embarked in ironworks which has since been wholly lost. In spite of the stocking which has been going on, we have not recently been making anything like as much iron in excess of the demand as might be supposed by the superficially informed. We made last year 6,381,051 tons, in 498 furnaces, and we exported 2,299,223 tons. The American demand of 1872 found the iron trade of this country full of life and vigor. In 1878 it will find the trade half dead. Both time and money will be needed to In 1878 it will find the trade half dead. Both time and money will be needed to restore its energies. The former may be had, out will the latter be forthcoming? Certainly not until iron reaches a far higher price than is now to be had for it. No such thing as an extensive embarkation of capital in iron works can be anticipated at present. Of course a number of furnaces now out of Of course a number of furnaces now out of Of course a number of furnaces now out of blast will be lighted up, and a few new furnacy be built. But limited speculation of this kind will not supply an addition of 900,000 tons of iron to our normal annual production of iron in 12 months. Taking the average production of a blast furnace at 13,000 tons per annum, it would need 70 to receive the reserved a probability. furnaces to make the required quantity. It is to the last degree doubtful that anything like that number of furnaces will be lit up in addition to those already going. pose that an ironmaster is now selling 20,000 tons of pig iron a year, at a profit of 1/ per ton. Let him now double that sale, and he will double his profit, and employ twice as many men as he did before. But let the price of labor augment 1/ per ton, and it will then be clear that he will make no profit at all. Furthermore, let it augment by but 6d. a ton, and he will then make no more by producing and selling 40,000 tons of iron than he did when his sales reached 20,000 tons only. The bearing of this will be clear

tons only. The bearing of this will be clear in a moment. Those who have money will not invest it in iron works unless they are sure that they will make a profit; but if the cost of labor increases with the demand for

cost of labor increases with the demand for iron, then it is quite possible, if not morally certain, that no profit will be made. If the capitalist holds aloof, then Great Britain cannot supply America with 900,000 tons of iron in 12 months

If America wants the iron very much, then she will consent to pay a long price for it. This will work in two ways. It will stimulate the American capitalist to start or develop iron works in the States, and it will stimulate the English capitalist to do the same thing here. Then we shall be in a position to supply 900,000 tons or more; but as the American ironmaster will have done something also, we shall not be asked for Committee of the Privy Council. something also, we shall not be asked for Committee of the Privy Council.

000.000 tons. However, we shall sell a great deal of iron, and that at a profit. But another question arises, or rather an old question in the sense that we raised in the first paragraph of this article—is the demand from the States strictly legitimate or is it speculative? Are the proposed rail-ways, on the construction of which so much depends, really wanted by the country, or are they in whole or in part got up by speculators who care nothing for the country and only work to secure their own ends; or do they merely represent a mild form of the fever which raged in our midst between 1845 and 1847? It is not improbable that the projected railways may be wanted and will pay dividends; but of all this there is no certainty whatever, and the past history of American railway enterprise is not encour American railway enterprise is not encouraging. Again, before the price of iron could rise in this country to such a point that capital would be attracted to the trade, might not the American demand be slain? In other words, may not the price of iron rise to such an extent that America will have to go without her raffways because they would cost too much? All things considered, we believe that it is our duty to urge on ironmasters and others concerned urge on ironmasters and others concerned extreme caution. Their motto should be carpe diem. Let them seize the day. Let every advantage possible be taken of the present demand. But let those who contemblet within the carpet demand. plate risking money in the purchase of ex-isting iron works or in building new fur-naces, think twice before they spend a shilllearn sometimes around more iron in 1872 than united States used more iron in that year in any year before or since, for in that year no less than 5147 miles of new railways were made. The furnaces of the country produced 2,854,000 tons, and this fell short of the demand by 893,000 tons, which were imported from Great Britain. We have put it is or is not true that railways which now it is or is not true that railways which now made. ing of their capital. The progress of events must be watched, and that with care, and the Ironmasters' Association would act wisely it is or is not true that railways which now exist in abundance on paper will be made, or that if made they will be paid for. This is the information that is of all others most needed. Possessed of it, the English ironmaster can shape his course so as to secure to himself the maximum of profit. While he lacks accurate knowledge on this most important point, he can but blunder along in the dark and trust to the chapter of accidents to secure him from disaster

Fireless Tramway Locomotives.

Some years since, it will be remembered, a dummy engine of novel construction was tried in New Orleans, but without success. The inventor, Dr. Lamm, was more successful abroad, it appears, and it may be of interest to give the results of more than a year's trial in Paris, as stated by M. Léon Frame, in a paper read at the Institution of Mechanical Engineers. The principle involved is that in a heated liquid the boiling point rises or falls according as the pressure on its surface increases or diminishes. Thus, on its surface increases or diminishes. Thus, if water be stored in a vessel at a temperature greater than that corresponding to the boiling point—at, say, atmospheric pressure—it will continue to give off steam or vapor as the pressure is reduced from the higher to the lower limit. By nearly filling a tramway engine vessel with water, under a pressure of any 200 pounds per square inch. sure of, say, 200 pounds per square inch, and a corresponding temperature of 382 de-grees, the engine may be run until the temperature of the water has been lowered by the removal of steam under constantly decreasing pressure to, say, 269 degrees, or about 41 pounds per square inch absolute. The application of this principle dispenses with the necessary apparatus for producing steam by a fire in the locomotive boiler, and employs instead a simple reservoir for water by the description of the same producing the same producing the same producing the same producing to the same producing the same producing to the same producing the sam employs instead a simple reservoir for water heated at certain intervals to a high temperature by the injection of steam from fixed boilers working under high pressures. Some of the engines thus made are at work in Paris, and others have been at work on the Rueil and Marly le Roi tramway in the neighborhood since the middle of 1878. In many respects the fireless locomotive is, with the exception of the absence of fire-box and attachments, similar to other tramway locomotives of recent design. Exceptional locomotives of recent design. Exceptional and ingenious contrivances have, however, been adopted, in order to overcome the difficulties attending the use of steam between the limits of about 197 pounds and 28 pounds above the atmosphere. The chief of these above the atmosphere. The chief of these is a very ingenious reducing valve, which may also form a regulator for the admission p in addition to those already going.

I may also form a regulator for the admission of the steam into the cylinders. The engines are provided with a kind of air condenser, dwas so great that additional form. lit up in addition to those already going. The moment it became clear that the demand was so great that additional furnaces were being started all over the country the men would ask for higher wages. Coal, ironstone and labor would all go up. Indeed, the ironmaster who sells pig iron to American consumers is even now making little or no profit. The real advantage gained by this country is that men who are now idle can find work. But the men will not see this. They will hold that not only ought more of them to be employed, but that their wages should go up at the same time. To show the fallacy of this view, let us suppose that an ironmaster is now selling 20,000 tons of pig iron a year, at a profit of 1/per carriages, weighing 10 tons 16 cwt., and carrying a maximum number of 295 travelers, weighing about 18 tons 14 cwt.; total, 36 tons 2 cwt. In working the locomotives the steam is reduced to about four atmospheres before performing any work, but it was pointed out in the discussion following the reading of the paper, that it might be more exprenented to do away with the re-

Besides the advantages claimed as the consequence of doing away with the fire, it is stated that at Paris a considerable saving was effected, compared to the cost of operating the road, with ordinary small

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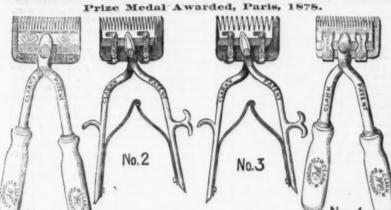
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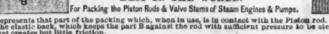




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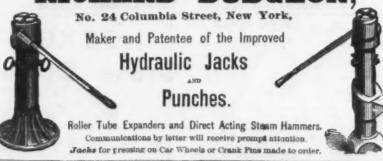
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French and Belgian Iron Statistics.

In the Bulletin du Comité des Forges de France we find the following statistics of 960 tons in 1878); plates and iron, 50,650 tons (56,895 tons); steel, 4571 tons (4402 tons). The exports, all classes comprised, were 126,056 tons, against 120,873 tons in 1878. The recent increase in the exports of scrap and manganese pig will count for something in the rise of the exports, which is at the rate of 4 per cent on last year's account, the imports during the same period having declined by 3 per cent. The total benefit to French trade is thus equal to 7 per cent. Corresponding with the decline in the cent. Corresponding with the decline in the importation of foreign pig is a rise in the imports of ironstone, which were 710,545 tons this year, and 698,980 tons last. The imported ores (the weights of which we quote in metric tons) were taken from the follow-

Ing sources of		1879. 1878.
peigium		42,623 135,686
Germany		161,129 104,476
Spain		108,703 161,850
Italy		86,634 85,014
Algeria		209,774 208,622
Miscellaneous	upplies	11,682 3,324
The increas	e in the impor	ts of ore is thus

The increase in the imports of ore is thus at the rate of 3 per cent. The exports for 1879 and 1878 were, respectively, 53,676 tons and 59,710 tons, the decline in the exports being at the rate of 10 per cent. The Comité's report on the condition of the market at Paris is that prices are firm, in spite of the stoppage in building operations; that bridge iron plates, flats, angles, are in brisk demand, and are consequently held at firm rates; and that the general situation of business is considerably better than it was six ness is considerably better than it was six months ago.

The Belgian exports and imports were, dur-ing the same period of nine months, accord-ing to the publications of the Belgian Treasury

Depair Calone .	Imports. January to September.		Jan	ports. uary to tember.
	1879.	1878.	1879.	1878.
Steel	3,338	4,015	34-537	17.458
Pig iron	132,585	164,926	5,706	3,582
Wire	1,620	3.007	2,313	2,203
Rails (iron)	875	48	21,686	25.351
Plates	134	131	16,639	87.390
Section irons	3,029	3.081	\$99,437	97,977
Anchors, &c	164	98	7	
Nails	261	301	5,866	7,064
Unclas'd goods	2,088	2,198	16,527	12,541
Castings	984	1.406	9,485	4,599
Ores and scrap	496,294	645,193	144,105	191,100
Coal	524,511	503,364	3,140,026	2,702,984
Coke	7.754	16,585	451.338	418,120
-		-		

Properties of the Alloys of Copper & Tin.

Abstract from the Report of the United States Board Appointed to Trst Iron, Steel and Other Metals.

A large portion of the report of the United States Testing Board, which has just been issued from the Government Printing Office. is devoted to the alloys of copper and tin. It is entitled "Report on a Freliminary In-vestigation of the Properties of the Copper-Tin Alloys, made under the Direction of the Committee on Metallic Alloys, United States Board, &c., Robert H. Thurston, Chairman, in the Mechanical Laboratory of the Stevens Institute of Technology." Although the re-Institute of Technology." Although the re-port claims to be that of only a preliminary investigation, it contains much information in regard to the strength and other mechaniin regard to the strength and other mechanical properties of all alloys which may be made from the two metals copper and tin. Some hundreds of tests were made by transverse, tonsile, compressive and torsional strain, the results tabulated and compared and the strain diagrams plotted. In the following columns we give a condensa-

tion of the report, embodying all of its more important practical results and conclusions PRELIMINARY EXPERIMENTAL RESEARCH

UPON THE MECHANICAL PROPERTIES OF SMALL CASTINGS OF THE ALLOYS OF COP-PER AND TIN.

The part of this research which has been completed and of which the results are given, completed and of which the results are given, consists of an investigation of the strength, ductility, resilience and other mechanical properties of the alloys of copper and tin, in the form of cast bars about 28 inches long and r inch square in section, prepared from the best commercial metals, simply ordinary precautions being taken to secure good castings. It was desired to learn, besides the properties of each particular alloy, the laws which connected these properties with the proportions of the component metals, and also tions of the component metals, and also whether alloys mixed in simple proportions of the chemical equivalents of the component metals, possessed any advantages over other mixtures. It was reserved for a subsequent research to determine the effects of various mixtures. methods of casting, of rapid or slow cooling, of casting under pressure, of using special fluxes and of the effect of rolling and hammering.

Two series of these alloys were made, the first consisting of 29 bars, of which 23 were mixtures of the metals in atomic proportions, four were mixtures made without regard to the atomic proportions, and the remaining two were a bar of copper and a bar of tin, each

without admixture.

The second series comprised 20 bars, ranging from 97½ per cent. copper and 2½ tin to 97½ tin and 2½ copper, with regular difference of composition between consecutive bars of 5 per cent. In addition to these alloys, a few other bars of cast copper were

made and one of cast tin. Analyses of the ingot metal used in these alloys were made, with the following re-

	Ingot Lake Superior Copper.	Ingot Banca Tin.
Metallic	iron 0.013	0.035
6.6	zinc none	none
+6	milver 0.014	****
66	arsenic none	none
64	antimony none	none
1.6	cobalt	
6.6	bismuth none	none
84	nickel	11111
0.0	lead trace	none
84	manganese	FA
4.6	molybdenum	none
6.6	tungsten	*****
5.6	copper99.420	none
8-5	tin none	99.978
Suboxid	e of copper 0.537	*****
	insoluble in aqua	
regia.		trace
worksm.		Management of the last of the
Tota	1100.025	100.013

After the bars were prepared, they were tested first by transverse stress. The pieces remaining from the transverse tests were then turned into proper shape and tested by tensile stress. The ends of the tensile test pieces were then tested by torsion. In general, each bar sufficed for one transverse, two tensile and four torsional tests, and in some cases compression test pieces were made, as described hereafter. The turnings made in shaping each tensile test specimen were carefully saved for chemical analysis. Two chemical analyses, one from each end of the original bar, were thus obtained. Small pieces from each tensile specimen were saved for the determination of the

specific gravity.

All the bars were made in the brass foundry of the Mechanical Laboratory of the Stevens Institute of Technology, by an experienced brass founder, but considerable difficulty was met with in the case of many of them, in consequence of the variable and unusual proportions in mixtures adopted, which necessitated different methods of treatment. Several bars had to be recast one or more times to secure even fairly good

In mixing, the copper was first melted and the tin added in the solid state in small portions at a time, and the mixture thoroughly stirred. In all cases the mold was placed in a vertical position while the metal was being poured and cooled.

ALLOYS OF COPPER AND TIN-FIRST SERIES

ALLOYS OF COPPER AND TIN-FIRST SERIES.

Tests by Transverse Tests,

Length of bars between supports 22 inches (except
bar No. 14, 17% inches); breadth and depth, 1
inch nearly (varying from 0.973 inch to 1.012 inch).

		Composi- by Anal-	Load,	Limit,	ection,	f Rup-
No.	Copper.	Tin.	Breaking	Elastic Lbs.	Total Deflec Inches.	Modulus of ture.
1	100.00	0.00	650	225	2.306	21.251
2	97.89	1.90	550	175	4.561	
3	96.00	3.76	1000	350	7.634	33,232
3 4 5 6	92.11	7.80	1350	575	6.766	43.731
5	90.27	9.58	1485	600	7.534	49,400
	87.15	12.73	1050	300	2.291	34.538
7 8	80.95	18.84	8750	1150	0.492	56,785
8	76.63	23.24	975	975	0.191	32,210
9	69.84	29.88	360	360	0.003	12,070
to	68.58	31.26	275	275	0.043	9,152
11	65.63	34 - 47	140	140	0.020	4.779
13	62.38	37-35	85	80	0.032	2,701
13	56.70	43.17	60	бо	0.103	2,126
14	51.68	48.09	140	140	0.040	3,887
15	47.61	52.14	105	105	0.019	3,600
16	44.52	55.28	140	140	0.026	4.770
17	42.38	57.30	210	310	0.042	7,172
18	38.37	61.32	250	250	0.060	8,400
19	34.22	65.80	160	100	0.043	5, 384
20	25.85	73.80	240	140	0.121	8.967
21	23.35	76.29	370	140	0.269	12,406
22	20.25	79.63	300	100	0.345	10,019
23	15.08	84.63	270	60	0.858	9,063
24	11.40	88.47	300	75	5.849	80,706
25	8.57	91.39	160	40	8.000	5,305
26	3.72	y6.38	310	40	8.000	6,925
27	0.74	99.02	130	40	8.318	3,964
38	0.32	99.46	130	40	8.114	4.438
29		100.00	110	30	8.395	3.749
30	100.00		86o	120	8.000	29,848

By this table, therefore, the relation which the composition bears to the mechanical properties of strength, ductility and elastic esistance, is defined with tolerable exact-

It is seen that the bars from No. 1 to No. 8, inclusive, have considerable strength, and that all the rest are practically worthand that all the rest are practically worth-less for all purposes where strength is required. The dividing line between the strong and brittle alloys is precisely that at which the color changes from golden yellow to silver white, vis., at a composition con-taining between 24 and 30 per cent. of tin: alloys containing more than 24 per cent. of tin are comparatively valuless.

TESTS BY TENSILE STRESS.

Each bar was marked with the letters Each bar was marked with the letters A B C D, in addition to its number, for the purpose of distinguishing different portions of the bar. The upper end of the bar was marked A, the lower end B, and the middle C and D, respectively, above and below the transverse fracture. The pieces tested by tension are distinguished in the records which follow by the same number which was borne by the bar from which they were made, and by the letters A or B, as the piece was taken from the upper or lower end piece was taken from the upper or lower end

The pieces to be tested were made of a uniform size, viz., with a turned portion o.793-inch in diameter (= ½ inch sectional area) and 6 inches in length between shoulders, and leaving the square ends about 3 inches in length, whenever the sizes of the pieces from which they were cut were sufficient to allow it.

The pieces numbered No. 1 to No. 8 (all copper to 76.64 copper, 23.24 tin), inclusive, were turned in the lathe without difficulty, a gradually increasing hardness being no-ticed, the last named giving a very short chip, and required frequent sharpening of the tool. The turned surface of all these bars was made perfectly smooth by the turning tool. The color of the turned surface varied from copper red to light golden yellow, the color gradually becoming lighter with the increase of percentage of tin. In turning these bars, blow-holes of various sizes were found in nearly all of them, Nos. 4 and 7 only being quite free from them; Nos. 1 and 2 had a very large number of all

sizes, and Nos. 3, 5, 6 and 8 had a few, usually of small size.

With the most brittle alloys it was found with the most brittle alloys it was found impossible to turn the test pieces in the latho to a smooth surface. No. 9 to No. 11 (29,89 to 34.47 tin) could not be cut with a tool at all. Chips would fly off in advance of the tool and beneath it, leaving a rough surface, or the tool would sometimes, apparently, crush off portions of the metal, grinding it to rowder. These hars were not turned. to powder. These bars were not turned down to the standard size—0.798 inch—but had corners merely taken off, making the cylindrical portion nearly one inch diameter

and one inch long.

The apparatus used in the tests by tensile stress was the Richlé Brothers' testing ma-chine of 40,000 lbs. capacity, in the Mechan-ical Laboratory of the Stevens Institute of

l'echnology.

The elongations were measured by means of a pair of finely pointed dividers, with a fine screw attachment, taking the distance a between two points marked on the cylindri cal portion of the test piece, about 5 inches apart. The distances taken by the dividers

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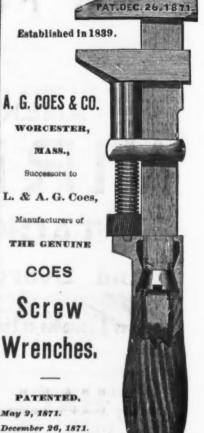
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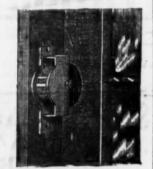
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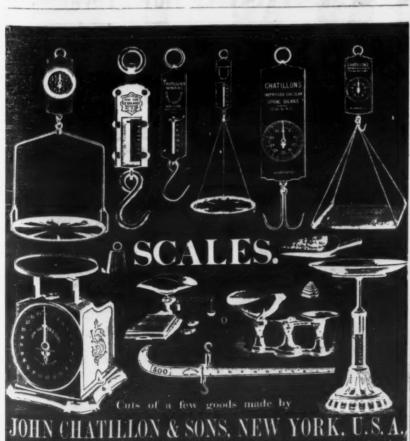
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were then measured on a standard scale, divided to hundredths of an inch. In this way the smallest elongation which could be observed was 0.01 inch, which was probably in many cases beyond the elastic limit, so

si,	Composition by an	osition alysis.	tion. orig-	Tenaci squar	ty per e inch.	limit.— per sq.
Number	Copper.	Tin.	Total elonga Per cent. inal length	Original section. Pounds.	Fractured section. Pounds,	Elastic limi Pounds per inch.
I	100,00		0.47	12,760	12,987	11,000
2	97.89		13.33	24,580	29,623	10,000
3	96.06	3.76	14.29	32,000	42,692	16,000
4	92.11	7.80	5.53	28 540	33,780	19 000
5	30.27	9.58	3.66	26,860	30,205	15,750
6	87.15	12.73	3-33	29,430	30,680	20,000
7	80.95	18.84	0.04	32,080	32,980	
B	76.64	23.24		22,010	22,010	22,010
9	69.84	29 89		5,585	5,585	5,585
11	65.34	34-47		2,201	2,201	2,201
12	62.31	37-35		688	688	688
13*	56.70	43.17		1,455	1,455	1.455
14	51.62	48.09		2,555	2,555	2,555
15	47.61	52.14		1,525	1.525	1,525
16	44-52	55.28		3.010	3,010	3,010
17	42.38	57.30		3,910	3.910	3,010
£8	38.37	61.32		2,820	2,820	2,820
19	34.29	68.80		3.37×	3,371	3,371
20	25.85	73.80		1,648	1,648	1,648
374	23.35	76.29		6,775	6,775	6,775
22	20.25	79.63		4 337	4.337	4-337
24	11.49	88.47	4.10	0,380	6,627	3,500
25	8.57	91.39	6.87	6,450	7,594	3,500
20		96.31	12.32	4.780	6,804	2,750
27	0.74	99.02	22.79	3,650	7.867	
28	0 32	99.46	35-44	4.475	13,223	2,500
29		100,00	35.51	3,505		
30	100,00		6.47	27.800	32,:96	14,000

* Rectangular section, 0.008 x 1.004 inches. RESULTS OF TESTS BY TENSILE STRESS.

The results of tests by tensile stress agreed

The results of tests by tensile stress agreed in general very closely with those by transverse stress, the relative strength and ductility of the various bars being the same under either kind of test. This was very plainly shown by plotted curves, in which the transverse and tensile strengths and ductility are compared.

Bar No. 1 (all copper) proved deficient in both strength and ductility, in consequence of the presence of a large number of blowholes. The fact should be kept in mind throughout this discussion of results that these cast pieces were purposely used, although frequently unsound, as it was intended to ascertain the value of each alloy as cast. It remains to be subsequently detended to ascertain the value of each alloy as cast. It remains to be subsequently determined how far the occurrence of unsoundness in casting can be avoided by special treatment, and how the tenacity and other valuable properties may be thus improved.

Bars No. 4 and No. 5 (7.80 and 9.58 tin) showed an exception to the rule of increase of strength with increase in the proportion of tin and were both weather under tensile.

of strength with increase in the proportion of tin, and were both weaker under tensile stress than No. 3, while in the transverse tests No. 3 was the weakest and No. 5 the strongest of the three bars. The reason of this weakness does not appear to be the presence of blow-holes, as No. 3 had more of these than either No. 4 or No. 5. In the case of No. 5 the weakness is probably due to the want of homogeneity of the metal. As observed in the fracture by transverse stress, the metal was not homogeneous, the

As observed in the fracture by transverse stress, the metal was not homogeneous, the central portion being dark red or brownish red, while the outer portions were of a reddish yellow to a yellowish gray color.

All of the brittle pieces showed not only general weakness, but irregularity of strength. The upper and lower portions of the bar often gave very different results, and differed so irregularly that they seemed to follow no law whatever. The tensile strength of pieces of which the chemical analyses, as well as the appearance of the metal, showed similar constitution, often gave widely varying results.

gave widely varying results.

Bar No. 23 A gradually elongated under Bar No. 23 A gradually elongated under the load of 3300 rounds for two minutes be-fore breaking, the elongation increasing from 0.13 to 0.37 inch. This "time test" showed the same result as time tests made by transverse stress, viz., that the ductile metals may show a greater or less resistance to stress as the load is applied for a shorter or longer time. The ductile bars showed a With No. 29 A a special "time test" was made to determine the difference in resistance to slow and rapid rupture. This bar being composed entirely of tin, and apparently a good casting, it would be expected that tests of the two pieces, one from the upper and one from the lower end of the bar, would show little, if any, difference in strength. No. 29 A was first tested with a load of 1700 pounds, which caused an elongation of c.15 inch. This load was then reduced to 1250 pounds, and the reading again taken, showing an elongation of c.15 inch. The load was then increased to 1400 pounds, and the elongation was 0.32 inch. The load was then increased to 1400 pounds, and the elongation was 0.32 inch. The load was allowed to remain on the bar 10 minutes, and the clongation

pounds the elongation was road 1.88 inches.
The piece then extended very rapidly, and at the same time its resistance, as measured by the scale beam, reduced to 1700. The The piece sustained this load a few seconds, and then broke after an elongation of 2.58

All kinds Wagon & Carriage Ayles

Manufactured by the

LAMBERTVILLE IRON WORKS,

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inches.

Comparing these two tests, it is seen that the resistance of No. 29 A to an elongation greater than 0.19 inch was never greater than 1,400 pounds, while that of No. 29 B was 2100 pounds, or 50 per cent. more than the former; which 50 per cent. apparent into the part of the former; which 50 per cent. apparent into the former is the former; which 50 per cent. apparent into the former is the former is the former into the former into the former is the former into the former into the former is the former into the f

per cent. less than either of the other pieces.

(To be continued.)

England's Depression the Result of Free Trade.

Our readers will be much interested in the following remarkable letter, which ap-pears in the columns of the Sheffield Daily Telegraph

Sir: England has had four lean years; is sho to have seven? As yet, alas! there is scarcely a sign of returning prosperity. is searcely a sign of returning prosperity. Wages are still falling, every day the busy hum of our teeming hives of industry gets fainter, industrial establishments are closing, our best operatives are flocking to the land of protection, and the only crumb of comfort, the only speck of silver lining to the cloud, the straw that drowning men catch at, is that America, prosperous beyond example, may perhaps draw a portion of her wants from this country. This is no ordinary trade depression. We know the signs too well; they can be foretold like an Atlantic gale; they run their course and pass away; but this does not pass away. Neither Zulu war, nor Afghan war, nor spots on the sun, nor even Lord Beaconsfield himself, por all four combined, will account for the palsy that has struck down our industries. our industries.

our industries.

"It is in times of distress," says Mr. Bright, "that the unwisdom and injustice of laws come to be examined," and so it is with free trade; the sophisms, the paradoxes, the theories of free trade are being examined with rapidly-increasing skepticism, and free traders are furious—their cism, and rece traders are furious—their vocabulary fails them for want of words to denounce the fools, the idiots, and worse, who will not read the pages of political economy exactly as they read them. But, after all, this exhibition of temper is unrea-

after all, this exhibition of temper is unreasonable; their reading is not the general reading of mankind—it is opposed by the practice of every industrial nation in the world, except the "unspeakable Turk."

In America, France, Belgium, Germany, Switzerland, Holland—in fact, wherever the common sense of mankind is allowed to exert itself, the first and great commandment, the "whole law and the Propheta" of political economy, is allowed to be this: "That national prosperity depends on general

ical economy, is allowed to be this: "That national prosperity depends on general employment."

The skill or industry of the workman in his trade is his capital, the "capital of labor." In an industrial community the capital of labor is the chief productive capital of the country, but without general employment it is valueless. It is general employment that turns over this capital and makes it increase and multiply.

The "capital of labor" cannot afford to remain long idle. If employment is denied

remain long idle. If employment is denied in one place it speedily emigrates to an-

other more congenial.

This is the first lesson of Political Economy as read by the light of universal suffrage in France and America, and so it would be the reading in England, too, if we

had universal suffrage.

But this is not the lesson taught by Mr.

Bright and his friends. "Political econ-Bright and his friends. "Political economy," say they, "tells us nothing about general employment. Let that regulate itself; we don't recognize the claims of the 'capital of labor.' The one lesson political economy teaches us is 'that the consumer should be enabled to buy in the cheapest market; it is a matter of perfect indifference to be by whom this parket is applied. or longer time. The ductile bars showed a much greater uniformity of strength in the upper and lower portions of the bars than the brittle pieces, when the time occupied by the test was the same. "Time tests" of shorter duration were made with nearly all the bars from No. 23 to No. 29, with the uniform result of increasing the elongation. With No. 29 A a special "time test" time test "time test" the foreigner, they must turn their hands to countly in the cheapers and the producers of France, Belgium or America. There is no national nonsense about us; we are cosmopolitan to the backbone. If our producers cannot supply us as cheaply as the foreigner, they must turn their hands to countly the producers or leave the country, or

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Bar No. 29 B was then tested in a different maneer. The load was gradually but now supplies herself in almost every manual on the process. It is seen to prove the community. In the omployment of the people has been little short of marvelous; the best workmen of England have flocked to her; industries that the beginning of the test.

Bar No. 29 B was then tested in a different make of Bessemer steel 13 times in 10 years; she has 700 iron works in full operation; she now supplies herself in almost every manual over the second of the concavity to fit hoof, and the best and the elongation was 0.32 over, accumulating and multiplying, and enriching all classes of the community. In the bar broke, it seems probable from this test that the load of 1400 pounds would have flocked to her; industries that the beginning of the test.

Bar No. 29 B was then tested in a different make of Bessemer steel 13 times in 10 years; she has 700 iron works in full operation; she has 700 iron works in full operation; she has 700 iron works in full operation; she has 700 iron works in full operation was 0.32 over, accumulating and multiplying, and enriching all classes of the community. In the bar broke, it seems probable from this test short of marvelous; the best workmen of years ago had no existence, have sprung into vigorous life; she has multiplied her make of Bessemer steel 13 times in 10 years; she has 700 iron works in full operation; and multiplying, and enriching all classes of the community. In the bar broke, it seems probable from this test.

Bar No. 29 B was then increased to 1,70 inches, when the elongation was 0.32 increased to 1.70 inches, when the elongation was 0.32 increased to 1.70 inches, when the elongation was 0.32 increased to 1.70 inches, when the elongation was 0.32 increased to 1.70 inches, when the elongation was 0.32 increased to 1.70 inches, when the elo beginning of the test.

Bar No. 29 B was then tested in a different manner. The load was gradually, but rapidly, increased to 2100 pounds, without stopping longer than a sufficient time to take the reading of the clongation at 975. more than a temporary derangement of her prosperity.

This is the country that Mr. Vivian tells is, in his interesting notes on America, has the curse of protection upon it :" and he pump of the hydraulic press was run as fast adds, with agenuine burst of free trade fanatias possible, but the beam would not be balanced by so doing beyond 1700 pounds.
The piece sustained this load a few seconds,
vidence is shackled and blighted." Are we to cism, where man interposes has snorr-sighted laws, the best provision of Pro-vidence is shackled and blighted." Are we to understand that America is shackled and blighted, or merely that free trade has a

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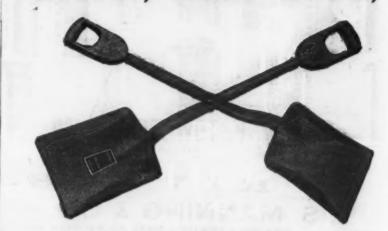
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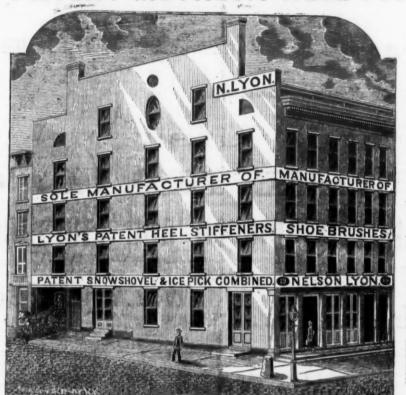
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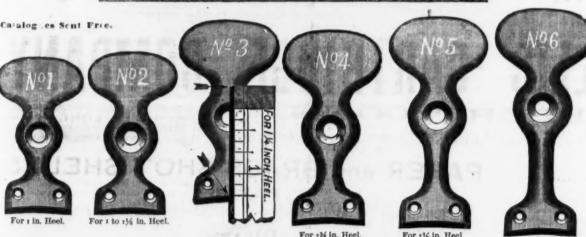
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produce cheaper than the Germans and the Japaness cheaper than the Chinese. They can and do produce almost every manufactured article—silk, iron, glass, cotton, woolen—cheaper than we do. So much the better, say the free traders; we shall then import what we require from France, Germany, Belgium or America cheaper than we can buy it in this country, and we shall have so much more more than the country of the country of the country of the country. so much more money to spend on something else, and by that much the country will be the richer. This is the free-trade shibbo

heth. Let us take a test case.

No industry stands alone; each one is so dovetailed and interwoven with other industries that it cannot fall without bringing ruin on numbers of others. Plate glass supports, and is supported by, and is intimately mixed up with no less than 33 distinct industries, occupations and employments. Suppose A builds a house in which the plate glass cost £200; he perhaps gets this glass 2½ per cent. cheaper from France or Belgium. "See what a grand thing is free trade," say the Free Traders. A will save £5; he will have £5 to spend on something else; therefore, to the extent of that £5 the whole country is the richer. Apply this to else; therefore, to the extent of that £5 the whole country is the richer. Apply this to sugar, iron, wool, cotton, silk, &c., and you see at once how immensely free trade adds to the wealth of the country. But, as in every case, there is a reverse to the medal. A saves £5; granted; but the plate-glass workers and the 33 industries depending on plate glass lose between them £200. The industrial community suffers to the extent of forty times the amount saved by the tent of forty times the amount saved by the tent of forty times the amount saved by the individual A. Apply this again to iron, sugar, silk, cotton, wool, &c., and we shall see what foreign competition is really doing for the general employment of the people. Mr. Bright and his friends overlook the point of the argument. "We will not tax the whole community in order to enrich a few greedy manufacturers," say our Free Traders. "We will tax the whole com-munity in order to promote the general em-ployment of the people," say the Protec-tionists of France, Belgium and America.

Ten years ago the condition of our productive industries was nearly as bad as it is now. General employment was equally de pressed. Then came the years of inflation, when wages and profits jumped to a point never before reached. "See what free trade pressed. Then came the years of inflation, when wages and profits jumped to a point never before reached. "See what free trade is doing for us," said its supporters; but it was not free trade at all that caused those three years of inflation; it was war, simply war—the Franco-German war—and nothing else that for two years paralyzed the productive industries of France and Germany and left us masters of the situation to supply our own markets and the neutral markets of the world. Of course there is a credit as well as a debit side in foreign competition. I leave the credit side to Mr. Bright and his followers. The debit side is shortly as followers. The debit side is shortly as followers.

Foreign competition has lessened the gen-

Foreign competition has lessened the general employment of the people.

It has made the returns of labor and capital more uncertain, more fluctuating.

Supply is no longer regulated by demand, but by the over-production and the necessities of foreign producers.

The masters cannot calculate their profits, or the workmen their wages, for a month together.

It must lengthen the labor and lower the

wages of the British workman to the level of his foreign competitor.

It has destroyed the national pride in the

not go on. V ruin. Every year we see ourselves more completely excluded from the foreign markets; every year more and more excluded from our own market. You may say it is our own fault—that we ought to work longer hours (seven days a week, like work longer hours (seven days a week, like our foreign competitors), be satisfied with lower wages, eat less meat, drink less beer, and it may be so, but that does not alter the fact that in asking us to produce as cheaply as the foreigner, you ask us to do what at present we cannot do! In the same breath you say to the foreign operative: 'Send us your goods, as much as you can,' and to the English operative: 'We have too much of your goods; leave the country, go to America.' Apparently you wish to make England a land for consumers only. You have as much as said to the producers: 'We can do without you; we can buy all we want cheaper elsewhere.' You have worked hard for the consumer—what have you done for for the consumer—what have you done for the producer? You have given him cheap bread, you say. Certainly, but man does not live by bread alone; he wants money to buy it, and how is he to get money without employment?

The consumer—what have you done for the producer? You have given him cheap bearer than plated copper, while its sub-stance is, of course, uniform throughout its thickness. For builders' fittings, harness, chains, arms, scientific instruments, clocks, art metal work, &c., the new alloy is and

buy it, and how is no employment!

No doubt the aristocracy, the land laws, the wickedness of Lord Beaconsfield, are burning questions for you and your friends; but there are burning questions that affect us still more nearly. 'Near is my shirt, but the control of the control us still more nearly. 'Near is my shirt, but nearer is my skiu.' General employment, prosperous industries, wages, work, protec-tion, are the burning questions that most

What do you propose for us There are 21/2 per cent.

no teeming hives of industries. Every manufactured article would be imported from Europe. Her iron and coal mines would be still undeveloped. She would remain a purely agricultural country, like Russia, and her progress and civilization would be indefinitely postponed.

Your columns are not the place in which to discuss the reason why French, Belgian, German and now American operatives produce cheaper than we do; it is sufficient for our argument that they do; they produce cheaper than we do, as the Chinese produce cheaper than the Germans and the Japaness cheaper than the Germans and the Japaness cheaper than the Chinese. They can and do produce almost every manufactured article—silk. iron, glass, cotton,

the hive, what is to become of the drones? Your obliged, EDWD. SULLIVAN.
13 Grosvenor Place.

Tempering Steel.

Considering the wide and universal use of steel in the arts, it is surprising that its properties are so little understood by the skill in manipulating steel is acquired only after long experience; and the danger of failure when any departure is made from the old customs is so great, and the adherthe old customs is so great, and the adherence to them has become so strict, as to prevent, apparently, any experimenting. Although the workers of steel are, as a rule, very intelligent, their disinclination to modify existing methods frequently approaches prejudice. Thus it is generally believed that steel, when once burnt, is absolutely unfit for any purpose whatever, and it seems a difficult matter to convince them that such is not the case Messrs. Bauer & Co., of this city, have for some time been Co., of this city, have for some time been engaged in accumulating proofs to the contrary, and show that with the aid of "steeline," a compound which they prepare, burnt steel may be restored, and that, pare, burnt steel may be restored, and that, in fact, overheating of steel and subsequent cooling in steeline offers many advantages in working. We witnessed recently some experiments made with the compounds which prove its efficiency. One end of a steel bar was heated and tempered in the usual way, exhibiting a good fracture, the other end was then burnt, cooled in steeline, and olly semi-fluid mixture, heated again to an oily, semi-fluid mixture, heated again to a somewhat lower heat than usual, and then cooled in water. A fracture of the burnt steel showed the open granular fracture which would lead to its immediate condemnation, while the same burnt material, after treatment, had all the characteristics of a steel superior to the metal originally treated. We are assured by a firm whose reputation ranks among the highest in this country, that they found the steel work easier by its application, and that it is less liable to break in hardening. Messrs. Bauer & Co.

Damage by Lightning and its Prevention.—Mr. G. J. Symons, F. R. S., of 30 Greet George Street, London, S. W., secretary of s. joint committee of the Royal Institute of British Architects, the Royal Society of Telegraph Engineers, the Physical Society and the Metereological Society, is desirous of obtaining full data on the following subjects, with a view toward formulating existing knowledge on the protection property from damage by electricity, and the advisability of preparing and issuing a general code of rules for the erection of lightning conductors. "Full details of accidents by lightning, stating especially whether national industries.

It has created a wild competition in price, and price only, that has ruined the quality of English goods.

It has destroyed the English workman's the dents by lightning, stating especially whether the building struck had a conductor or not.

—construction—mode of attachment to building—whether its top was pointed—discontinuous conductors. It has destroyed the English workman's pride in his work. Cheapness everywhere takes the place of quality. Pressed to produce the greatest possible quantity, in the least possible time, at the lowest possible price, the British workmen has neither time nor inducement to improve his work.

How will this reaction—mode of attachment to building—whether its top was pointed—distance of its upper terminal from the place struck—nature and extent of the connection between the conductor and the earth, and whether the conductor was itself injured and whether the conductor was itself injured. How will this end? for end it must; it canstruck was the most salient object in the
vicinity. Information is also desired,
will rouse themselves from their dream of
either verbally or by sketches, as to the will rouse themselves from their dream of confidence in Mr. Bright and his friends. They will say: "For 27 years we have sat at your feet, trusting to your predictions and your promises, applauding your fallacies as Divine revelations, and where have they landed us? In something very like industrial the failures of conductors is much desired, as such failures would be extremely instrucsuch failures would be extremely instruc-tive." The object is one deserving active co-operation on the part of all who possess information on the subject, and will no doubt meet with much assistance from American observers and practical men

e consumer—what have you done for rust, takes a brilliant polish and is not to be of particular value

> The hands of the North of England blast furnaces asked for an advance of 15 per cent. recently, and accepted a compromise, the basis being a sliding scale, providing that when No. 3 ranged between 10/ and 42/6 the advance was to be 7½, any increase of 2/6 beyond that bringing an advance of

The Iron Age

Metallurgical Review.

New York, Thursday, November 27, 1879.

DAVID WILLIAMS Publisher and Proprietor. JAMES C. FAYLES . Editor.

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and some months ago, to put an end to this, Though wages have gone up all about them, such circumstances as those that exist in this part of the subject.

the price; but that would not have made the action equitable, and there is no doubt that the operators would have complained serious question if more is not lost than foresaw six months ago, and, this being so, is it not well to revise contracts with labor then made-that is, such contracts as provide for a fixed price for labor ?

The Treasury Officers and the Steel Blooms Question.

Having lately had opportunity of learning in an interview the views of Judge French on the subject treated in his decision declaring steel blooms dutiable at 45 per cent, ad valorem, we find that the matter is one which the Treasury officials do not understand in any respect. This was evident from the wording of the decision in question; but we were not prepared to find that even this decision rests upon a comprehensive misconception of the whole subject of steel, its manufacture and its uses. Judge French labors under the idea that Bessemer steel differs from other steel in being "a coarse kind of steel which has not been hammered much to take out the impurities." The object of our interview was to ascertain whether, under the decision, crucible steel blooms would be admitted at the same rate as Bessemer. Judge French did not know what crucible steel was; indeed, he did not appear to know that there was more than one process of making steel, and that Bessemer was something different from a low because we have misunderstood what he said.

on a question of great public interest. Cerfor whom, as a gentleman and a public ofremarks are addressed more particularly to to hold. the manufacturers who asked and were granted an opportanity of arguing the subject of the proper classification of steel blooms partment. That Judge French had no per- unfortunately coincided with the panic and sonal knowledge of the qualities of steel subsequent dull period; production got the and the processes of its manufacture, is not at all to be wondered at. Such knowledge is speculator could be found to hold tin for any rarely possessed by those who are not in length of time. Thus left to shift for itself, some way connected with the business, or tin declined from £140 previous to the panic, interested in technical studies, especially in to £52. 15/ in the London market about the view of the rapid progress of the past few middle of October last year. This unyears in the metallurgical arts. But, having precedented depression caused the formagiven the manufacturers of steel a chance tion of a so-called syndicate between Engto inform him on these points when the sub- land and Holland, which took charge of it ject was under consideration, we confess to in the fall of last year, and obtained a firm no little surprise at his lack of knowledge control, backed by large means and favored thereon. We did not hear the manufac- by an easy money market since. The opera-Imports. Old Metals, Paper Stock. &c. Phila turors' argument, and do not know, of our tions of these speculators were eminently own knowledge, what they said. If the re-port which reached us by mail, and which their example with as much success in the appeared in our columns, was correct, they United States. Twentisth Pay".—Industrial Items. Heavy and Assistant Secretary by appeals which dealings; the revival in trade here and some could have no weight with those gentlemen, falling off in the shipments from Australia and which would have been appropriate only coincided with a large increase in the de Twen'y-second Page.—Factory Workers in the Ways and Means Committee room of the House of Representatives. Executive unimportant fluctuations, gradually harden officers in the position of Messrs. Sherman ed, till in October the London market sudand French have no right to be influenced denly became wild, and for a moment in their interpretation of the law by con- reached £98 for Straits. The following sideration for the pecuniary interests of table shows the course of prices in New manufacturers or their workpeople. should have made no difference to these gentlemen how many works would be closed how many workmen thrown out of employment by an interpretation favorable to a large importation. Congress makes the laws; it is the duty of the Treasury Department to enforce such of them as relate from time to time at the pits in that section, ever calamitous the possible result of enforcing these laws as interpreted by the ments from Australia to London remain as waste of time to appeal to their sympathies These are undoubtedly strong points in favor though prices of all the necessaries of life when a question of law is involved. This of the advance that has occurred, and they have advanced, and though the good times course the manufacturers seem to have are, moreover, strengthened by the wellhave carried prosperity to others, it does taken. That it was a mistake is evident, known increase of consumption in this not carry it to these miners. It is reported since it not only failed to influence the country. that the miners have asked for an advance, judgment of Judge French, but it left him

is a serious question whether such a con- of rescinding Judge French's ruling or of extract should be insisted upon by the em- tending its scope. But other questions are ployer. If it is justice that it should be, likely to arise, or this one may be brought up declined as heavily as it has advanced, 45 per cent. class, which will call for a larger the miners would have insisted upon the and more exact knowledge of steel, its manufulfillment of the contract and demanded facture and its uses, than is now possessed by the department. In view of this probability, would it not be well for the manufacturers of steel to prepare and file in the office of loudly of the iniquity of holding to the con- Mr. Sherman a document giving in plain tract. In such cases as these, it is a language, devoid of needless technicalities, all the information respecting steel which is gained by insisting upon the bond. The likely to be needed during the next few present condition of affairs is what no man years. With this they might, with propriyears. With this they might, with propriety and advantage, file a clear, businesslike argument as to the meaning of the law, based on the state of the art at the time it was framed. It is evident that such sections of the tariff as relate to metals, were not framed with a prophetic foreknowledge of the results of subsequent progress in metallurgy. Obviously, therefore, a law framed in 1862 cannot be intelligently interpreted with exclusive reference to the present state of metallurgical art, or by drawing nice distinctions between terms then unknown, but which now have the sanction of commercial usage. To such documents as we have suggested, reference could be made whenever questions relating to iron or steel should come up, and we have no doubt ample enough. On Nov. 1 it was down they would be consulted. This would be a to 16,234 tons, owing to the large Octopractical and sensible proceeding, and had it been done sooner it might have had the effect of preventing what most of those in the trade believe to be a mistaken interpretation of the law, and which we find to have resulted from the lack of information concerning that to which the law relates. But if our suggestion should be acted upon, we hope the documents in question will not be prepared with an obvious protectionist Appeals for the better defense of American labor against foreign competition are emineutly desirable in the proper place, but the Treasury Department is not the place

The Position of Tin.

Since our last editorial on tin, published in our issue of June 26, there has been a answer to our question, which was evidently great change in the value of this metal in a surprise. Such, at least, were the in- the world's markets, especially during the ferences which may be fairly drawn from month of October, and the question natuour interview with Judge French. If we rally suggests itself whether the extraordiare mistaken as to the extent of that gentle- nary advance is based on solid grounds, or man's metallurgical knowledge, it is not whether it is chiefly due to the operations of speculators, and therefore likely to be followed by reaction. During the past 30 years We feel that we commit no breach of tin has been a favorite of speculators as well courtesy or propriety in thus making public as of solid capitalists, who held it as a conthe substance of a conversation with the venient means for the temporary employ-Second Assistant Secretary of the Treasury ment of available funds. Prosperous commercial and industrial times generally kept tainly we do so with no desire to discredit the it close upon its intrinsic value, or a little intelligence and culture of Judge French, above it. Wars and revolutions and a commercial crisis affected it less than most other ficer, we entertain the highest respect. Our staple articles, and it was safe merchandise

All this changed, however, when Australia became a large producer of tin. Brisk business times would, however, have while it was under consideration by the de- overcome even this extra production, but it

It York :

STRAITS TIN. 13/4¢ @ 13/4¢ | 79. April... 14/4¢ @ 15¢
13/4¢ @ 15/4¢ | 79. April... 14/4¢ @ 15¢
15/4¢ @ 17¢
79. May ... 14/5¢ @ 14/5¢
79. July ... 14/5¢ @ 15/6¢
14¢ @ 14/5¢ | 79. Aug ... 14/5¢ @ 15¢
14/4¢ @ 15/5¢ | 79. Aug ... 14/5¢ @ 15¢
14/4¢ @ 15/5¢ | 79. Oct ... 18/4¢ @ 26¢

Judging from the deliveries thus far made The coal miners of Braidwood, Ill., are to customs, and such enforcement presumes in England and Holland, the European conin a bad position. There has been trouble an intelligent official interpretation. How- sumption of tin will reach this year 32,000 tons, against 29,000 in 1878; and if the shipa contract was signed, good for a year. proper officers of the department, these moderate to the close of the year as they Under this contract, which provides for a officers have no option in the matter. We have been the first nine months, they will fixed price, the miners are working. cannot, therefore, think it other than a not exceed 7000 tons, against 9700 in 1878.

The amounts drawn from the Straits for but have been met with the answer, "You without the information which would have shipment this way have, indeed, been unpremust stand by your contract." Now, that been useful to him, and which the manu-cedentedly large. During the first nine a-contract is a contract and should be facturers were so well able to impart. No months and a half we have on record an "lived up to" is a trite saying, but, under doubt they presumed that he understood aggregate of shipments from the Straits to doubled during the decade. From England In fact, it would be impossible to do so, as the United States of 4829 tons, which is at the import rose to about fourfold what it the question of the abandonment of a fur-

-for we only use this as a typical case-it take. The Secretary has no present intention year, from January 1 to December 31, the from the United States it rose from \$312,000 other words, we shall receive from the slightly. Straits about 2000 tons more than we did

Straits about 2000 tons more than we did

EXPORTS FROM SWEDEN DURING THE TEN YEARS
1868-1877, IN THOUSANDS OF DOLLARS. it certainly is not equity. Perhaps it may be true that if the market had what shall be considered a steel bloom of the English and some Banca we may get in excess of 1878.

The question yet to be solved will be the effect which an enhanced price may have on consumption. Is it likely that these extra supplies will be easily absorbed by the American consumer at figures 70 per cent. higher than they were in September, 1878 The principal argument in favor of increased consumption here and in Europe has been the remarkable cheapness of the metal; this inducement disappearing, we may have to be prepared for economy in the use of tin.

The statistical position in Europe was as follows at latest advices, compared with its position of the same time for the two pre-

vious years:			
In Stock : London Banca in Holland. Billiton	Tons. 9,408 1,827	Oct. 1, 1878. Tons. 9,999 1,661 1,676	Oct. 1, 1877. Tons. 9,271 1,353 1,439
Totals	13,554	13,336	12,063
Straits	210 1,400 950 1,867	200 1,050 812 1,107	500 2,100 800 884
Visible supply The visible su		it will be s	

ber deliveries, against 17,154 in 1878, and 15,405 in 1877. Since then the Netherland Trading Company has resolved to sell next year 600 tous Banca less than in 1879, owing to decreased production. It seems that the Banca tin mines are gradually yielding less, while the output of Billiton is on the increase. As for Chinese consumption, which steadily increased while tin was cheap, it is extremely doubtful whether it can go on at the same rate at present values, and we miss Chinese purchases in late Straits re-ports when the price was \$26 per picul. At \$30 they may cease altogether.

Granting every favorable argument that can be adduced to strengthen the recent improvement in tin, it must be conceded that counter-arguments of a forcible nature are not lacking, and of these the metal trade should not lose sight. Meanwhile London has declined from £98 to £92. 10/.

Trade of Sweden.

Since writing our article of July 11, 1878. on "Our Trade with Sweden and Norway," the Swedish government has published some commercial statistics having reference to the foreign trade of that country. We consider these tables valuable and instructive, inasmuch as they show an extraordinary expansion of business relations in that portion of the Scandinavian peninsula, the details of which throw out some hints to our merchants and manufacturers which should not be overlooked at a time when American products are becoming so popular in Europe.

Sweden is a country about which the colitical press of Europe concerns itself but little, and the Swedes are to be congratulated on this absence of international political agitation. They pursue their moral and material progress without troubling themselves about the shiftings of Continental politics, and are all the happier and : a 'er for Intent on their every-day business afairs, their material welfare rises prodigiously without their making much noise about it. Occasional official statistics, bowever, afford other nations an insight into this rapid de-

The geographical position and manifold resources of the great northern peninsula singularly favor the expansion of its foreign commerce, and the ensuing tables, reduced to thousands of dollars, show what has been accomplished in the short space of ten years :

IMPORTS INTO SWEDEN DURING THE 10 YEARS 1868-

From	1808.	1809.	1070.	1071.	1073.
Norway	\$1,581	\$2,080	\$2,565	\$2,466	\$3,183
Finland	802	769	966		
Russia	4.331	1,931	1,889	1,343	2,508
Denmark	8,588	8,892	8,278	6,738	8,334
Germany		10,720	8,760	11,595	14,629
Holland	1,140	1,431	2,745	2,385	1.834
Belgium	230	84	877	1,082	1,385
England	6,761	7,121	8,563	13.908	20,002
France	1,082	1,010	1,094	1,108	x,588
Spain & Por-					
tugal	364	280	337	428	534
Mediterran'n.	258	291	191	225	423
United States	312	150	293	1,613	765
West Indies	1,148	744	631	302	364
Brazil	743	7.40	638	762	459
River Plate	186	307	841	195	254
Australia	SI	48	3.	****	
Other coun-					
tries	4			4	5
tries					\$57,986
tries	835,914 1873.	\$36,613	\$37,971	\$45,355 1876.	\$57,986
Total	1873.			1876. \$4 403	\$57,986
tries	\$3,631 \$488	\$4,031 \$4,632	1875. \$4,027 1,243	1876. \$4 403 1,835	\$57,986 1877. \$4,198 2,040
Total From. Norway Finland Russia	\$3,631 \$488 3,601	1874 \$4,031	\$4,027 7,243 3,640	\$4 403 1,835 4,067	\$57,986 1877. \$4,198 2,049 8,812
From. Norway	\$3,631 1,488 3,631 9,980	\$4,031 \$4,031 \$,632 8,561 14,373	\$4,027 7,243 3,640	\$4 403 1,835 4,067 13,158	\$57,986 1877. \$4,198 2,040
From. Norway Finland Russia	\$3,631 1,488 3,631 9,980 16,631	\$4,031 \$4,031 \$,632 8,561 14,373	\$4,027 \$4,027 \$,243 3,640 13,100 14,795	\$4 403 1,835 4,067 13,158 15,045	\$57,986 1877. \$4,198 2,049 8,812
Total From. Norway Finland Russia	\$3,031 1,488 3,631 9,980 16,631 2,661	\$4,031 1,632 8,561	\$4,027 \$4,027 \$,243 3,640 13,100	\$4 403 1,835 4,067	\$57,986 1877. \$4,198 2,049 8,812 13,922 18,972 3,408
tries Total From. Norway Finland Russia Denmark Jermany Holland Belgjum	\$3,631 \$3,631 1,488 3,631 9,980 16,631 2,661 1,583	\$4,031 \$,632 8,361 14,373 16,807 3,038	\$4,027 1,243 3,640 13,100 14,795 2,460 2,174	1876. \$4 403 1,835 4,067 13,158 15,045 2,843 2,372	\$57,986 1877. \$4,198 2,049 8,812 13,922 18,972 3,408 2,637
tries Total From. Norway Finland Russia Denmark Jermany Holland Belgjum	\$3,631 \$3,631 1,488 3,631 9,980 16,631 2,661 1,583	\$4,031 \$4,031 \$,632 \$,561 \$4,373 \$6,807 3,038 \$1,740 24,351	\$4,027 7,243 3,640 13,100 14,795 2,460	\$4 403 1,835 4,067 13,158 15,045 2,843 2,372 25,558	\$57,986 1877. \$4,198 2,049 8,812 13,922 18,972 3,408 2,637 24,586
From. From. Norway. Finland Russia Denmark Jermany Holland Belgium England. France.	\$3,631 1,488 3,631 9,980 16,631 2,661 1,583 35,464	\$4,031 \$4,031 \$,632 \$,561 \$4,373 \$6,807 3,038 \$1,740 24,351	\$4,027 1,243 3,640 13,100 14,795 2,460 2,174	1876. \$4,403 1,835 4,067 13,158 15,045 2,843	\$57,986 1877. \$4,198 2,049 8,812 13,922 18,972 3,408
From. From. Norway. Finland Russia Denmark Jermany Holland Belgium England. France.	\$3,631 1,488 3,631 9,980 16,631 2,661 1,583 25,464 2,510	\$4,03x \$4,03x \$1,632 \$5,56x \$14,373 \$16,807 \$1,038 \$1,740	\$4,027 7,243 3,640 13,100 14,795 2,460 2,174 24,639	1876. \$4 403 1,835 4,067 13,158 15,045 2,843 2,372 25,558 3,016	\$57,986 1877. \$4,198 2,049 8,812 13,922 18,972 3,408 2,637 24,586 9,016
From. Norway Finland Russia Denmark Hermany Holland Belgium England France Boain & Por-	\$3,631 1,488 3,631 9,980 16,631 2,661 1,583 35,464	\$4,03x x.632 8,56x 14.373 x6,807 3,038 1,740 24,35x 2,878	\$4,027 1,243 3,640 13,100 14,795 2,460 2,174 24,639 2,715	\$4 403 1,835 4,067 13,158 15,045 2,843 2,372 25,558	\$57,986 1877. \$4,198 2,049 8,812 13,922 18,972 3,408 2,637 24,586 9,016
Total From. Norway Finland Russia Deumark Jermany Iolland Selg.um England France Upain & Portugal Gediterran'n	\$3,631 1,488 3,631 9,980 16,631 2,661 1,583 25,464 2,310 763	\$4,03x x.632 8,56x 14.373 x6,807 3,038 x,740 24,35x 2,878 877	\$4,027 1,243 3,640 13,100 14,795 2,460 2,174 24,639 2,715 595 361	1876. \$4 403 1,835 4,067 13,158 15,045 2,843 2,372 25,558 3,016	\$57,986 1877. \$4,198 2,049 8,812 13,922 18,972 3,408 2,637 24,586 9,016
Total From. Norway Finland Russia Deumark Jermany Iolland Selg.um England France Upain & Portugal Gediterran'n	\$3,031 1,488 3,031 1,488 3,031 9,980 16,631 2,661 1,583 25,464 2,510 763 398	\$4,03x \$4,03x \$1,632 \$3,56x \$1,4373 \$1,740 \$24,35x \$2,878 \$77 394	\$4,027 1,243 3,640 13,100 14,795 2,460 2,174 24,639 2,715 595	\$4,403 1,835 4,067 13,158 15,045 2,843 2,372 25,558 3,016 568 321	\$57,986 1877. \$4,198 2,049 8,812 13,922 18,972 3,408 2,637 24,586 9,016
Total From. Norway Finland Russia Denmark Jermany Holland Selg.um England France Trance Trance Jupain & Portugal Jujea Batales Jujea Batales Jujea Batales	\$3,631 1,488 3,631 9,980 16,631 2,661 1,583 25,464 2,510 763 398 2,133	\$4,03x \$4,03x \$,632 \$,561 \$14,373 \$16,807 \$3,038 \$1,740 \$24,38x \$2,878 \$77 \$394 \$2,222 \$218	\$4,027 1,243 3,640 13,100 14,795 2,460 2,174 24,639 2,715 595 361	\$4 493 1,835 4,067 13,158 15,045 2,843 2,372 25,558 3,016 568 321 1,450	\$57,986 1877. \$4,198 2,049 8,812 13,922 18,972 3,408 2,637 24,586 3,516 683 492 1,947 279
Total From. Norway Finland Russia Denmark Jermany Holland Belgium England France. Trance. Trance. Trance. Viales	\$3,631 \$3,631 1,488 3,631 9,980 16,631 2,661 1,583 25,464 2,510 763 398 2,133 359	\$4,03x \$4,03x \$,632 \$,561 \$14,373 \$16,807 \$3,038 \$1,740 \$24,38x \$2,878 \$77 \$394 \$2,222 \$218	\$4,027 7,243 3,640 13,100 14,709 2,460 2,174 24,630 2,715 595 301 665 312	\$4 403 1,835 4,067 13,158 15,045 2,843 2,372 25,558 3,016 568 321 1,450 997	\$57,986 1877. \$4,198 2,049 8,812 13,922 18,972 3,408 2,637 24,586 3,516 683 492 1,947 279
tries From. Norway Finland Russia Denmark Jermany Holland Selg.um England France Trance Tra	\$3,631 1,488 3,631 1,488 3,631 9,980 16,631 2,661 1,583 25,464 2,510 763 398 2,1,33 355 9,16	\$4,031 \$4,031 \$632 \$,561 \$14,373 \$16,807 3,038 \$1,740 24,351 2,878 \$77 394 \$,222 218 \$665	\$4,027 \$4,027 \$243 3,640 13,100 2,4795 2,460 2,174 24,639 2,715 595 301 665 313 826	1876. \$4 403 1,835 4,067 13,158 15,045 2,843 2,372 25,558 3,016 568 321 1,450 397 293	\$57,986 1877. \$4,198 2,049 8,812 13,922 13,922 24,586 3,616 683 492 1,947
Total From. Norway Finland Russia Denmark Jermany Holland Belgium England France. Trance. Trance. Trance. Viales	\$3,631 \$3,631 1,488 3,631 9,980 16,631 2,661 1,583 25,464 2,510 763 398 2,133 359	\$4,03x \$4,03x \$,632 \$,561 \$14,373 \$16,807 \$3,038 \$1,740 \$24,38x \$2,878 \$77 \$394 \$2,222 \$218	\$4,027 7,243 3,640 13,100 14,709 2,460 2,174 24,630 2,715 595 301 665 312	\$4 403 1,835 4,067 13,158 15,045 2,843 2,372 25,558 3,016 568 321 1,450 997	\$57,986 1877. \$4,198 2,049 8,812 13,922 18,972 24,586 2,637 24,586 3,516 683 492 1,947 279 365

this case and scores and hundreds of others It is probably too late to rectify this mis- the rate of 6000 tons per annum, while last was in 1868; from Germany it doubled nace is one that is settled often in the mind

Total \$72.746 \$82,225 \$71.842 \$79,733 \$85,096

89 1,032 4,345

shipments did not exceed 4043 tons. In in 1868 to \$2,222,000 in 1874, then receding

1868.	186g.	1870.	1871.	1872.
\$1,265	\$1,450	\$1.877	\$1.024	8
483				\$x,752
				673
				940
				5,090
3,390				4,125
				4,140
				1,969
				28,227
4.532	4:424	41453	3,071	4,707
00-				
			1,044	1,182
			442	507
	1,032	1,303	1,804	2,310
	.3	****	**- 1	18
		175	154	837
32	37	35	9	13
310	286	373	x8q	190
			1	- 40
2	2		****	****
\$32,030	\$33,737	\$42,220	BAA Bos	\$16.06
	423.131	444,330	4441033	420,004
1873.	1874.	1875.	1876.	1877.
1873.	1874.	z875.	1876.	1877.
1873. \$1,990	1874.	1875. \$1,901	1876. \$1,814	1877. \$1,884
1873. \$1,990 969	\$2,000 1,208	1875. \$1,901 1,125	1876. \$1,814 808	1877. \$1,884 908
1873. \$1,990 969 937	\$2,000 1,208 482	\$1,902 1,125 386	1876. \$1,814 808 408	1877. \$1,884 908 384
\$2,990 969 937 5,862	\$2,000 1,208 482 8,500	\$1,902 1,125 386 6,08	1876. \$1,814 808 408 6,133	1877. \$1,884 908 384 6,266
\$1,990 969 937 5,862 4,891	\$2,000 1,208 482 8,500 3,832	\$1,902 1,125 386 6,08 4,467	#876. \$1,814 808 408 6,133 4,265	\$1,884 908 384 6,266 3,813
\$1,990 969 937 5,862 4,891 4,118	\$2,000 1,208 482 8,500 3,831 4,225	1875. \$1,902 1,125 386 6,08 4,467 3,885	1876. \$1,814 808 408 6,133 4,265 3,032	\$1,884 908 384 6,266 3,833 2,994
\$1,990 969 937 5,862 4,891 4,118 1,973	\$2,000 1,208 482 8,500 3,831 4,225 2,822	2875. \$1,902 x,225 386 6,08 4,467 3,885 2,567	1876. \$1,814 808 408 6,133 4,265 3,032 2,501	1877. \$1,884 908 384 6,266 3,813 2,994 2,277
\$1,990 969 937 5,862 4,891 4,118 1,973 32,405	1874. \$2,000 1,208 482 8,500 3,831 4,225 2,822 33,079	2875. \$1,902 x,725 386 6,08 4,467 3,885 2,567 29,279	1876. \$1,814 808 408 6,133 4,265 3,032 2,501 31,267	\$1,884 908 384 6,266 3,833 2,994 2,277 32,849
\$1,990 969 937 5,862 4,891 4,118 1,973	\$2,000 1,208 482 8,500 3,831 4,225 2,822	2875. \$1,902 x,225 386 6,08 4,467 3,885 2,567	1876. \$1,814 808 408 6,133 4,265 3,032 2,501	1877. \$1,884 908 384 6,266 3,813 2,994 2,277
\$1,990 969 937 5,862 4,891 4,118 1,973 32,405 5,143	\$2,000 1,208 482 8,500 3,831 4,225 2,822 33,979 5,308	\$1,902 1,725 386 6,168 4,467 3,885 2,567 29,279 6,616	1876. \$1,814 808 408 6,133 4,265 3,032 2,501 31,267 6,587	1877. \$1,884 908 384 6,266 3,833 2,954 2,277 32,849 7,026
\$2,990 969 937 5,862 4,691 4,118 1,973 32,405 5,143	1874. \$2,000 1,208 482 8,500 3,831 4,225 2,822 33,979 5,308	1875. \$1,902 1,125 386 6,108 4,467 3,885 2,567 29,279 6,616	1876. \$1,814 808 408 6,133 4,265 3,032 2,501 31,267 6,587 1,038	\$1,884 908 384 6,266 3,833 2,994 2,277 32,849
\$2,990 969 937 5,862 4,891 4,118 1,973 32,405 5,143 774 689	\$2,000 1,208 482 8,500 3,831 4,225 2,822 33,979 5,308 1,279	x875. \$x,90x x, x25 386 6, co8 4,467 3,885 2,567 29,279 6,616	x876. \$x,8x4 808 408 6, x33 4,205 3,032 2,50x 31,267 6,587 x,038 332	1877. \$1,884 908 384 6,266 3,833 2,954 2,277 32,849 7,026
\$2,990 969 937 5,862 4,691 4,118 1,973 32,405 5,143	1874. \$2,000 1,208 482 8,500 3,831 4,225 2,822 33,979 5,308	1875. \$1,902 1,125 386 6,108 4,467 3,885 2,567 29,279 6,616	1876. \$1,814 808 408 6,133 4,265 3,032 2,501 31,267 6,587 1,038	1877. \$1,884 908 384 6,266 3,823 2,984 2,277 32,849 7,026 1,096
1873. \$1,990 969 937 5,862 4,891 4,118 1,973 32,405 5,143 774 689 1,863 8	\$2,000 \$2,000 \$2,000 \$482 \$,500 3,632 4,225 2,822 33,079 5,308 \$1,279 770 556	\$1,907 1,125 386 6,08 4,467 3,885 2,567 29,279 6,616 919 517	x876. \$x,8x4 808 408 6, x33 4,205 3,032 2,50x 31,267 6,587 x,038 332	1877. \$1,884 908 3,84 6,266 3,833 2,954 2,277 32,849 7,026 1,096 453
\$2,990 969 937 5,862 4,891 4,118 1,973 32,405 5,143 774 689	\$2,000 \$2,000 \$1,208 \$8,500 3,831 4,225 2,822 35,308 \$1,279 770 556 9	\$1,90x \$1,90x x,725 386 6,06 6,06 4,467 3,885 2,567 29,279 6,616 919 517 294 100 104	1876. \$1,814 808 408 6,133 4,205 3,032 2,501 31,267 6,587 1,038 332 211	1877. \$1,884 908 384 6,266 3,833 2,954 2,277 32,849 7,026 1,096 453 198
1873. \$1,990 969 937 5,862 4,891 4,118 1,973 32,405 5,143 774 689 1,863 8	\$2,000 \$2,000 \$2,000 \$482 \$,500 3,632 4,225 2,822 33,079 5,308 \$1,279 770 556	\$1,907 1,125 386 6,08 4,467 3,885 2,567 29,279 6,616 919 517	x876. \$1,814 808 408 6,183 4,265 3,032 2,501 31,267 6,587 1,038 332 211 7	1877. \$1,884 908 384 6,266 3,833 2,994 2,277 32,849 7,026 1,096 453 108 119
\$1,990 969 937 5,8662 4,891 4,118 1,973 32,405 5,143 774 689 1,863 8	\$2,000 \$2,000 \$2,000 \$8,500 3,832 4,225 2,822 33,979 5,308 1,279 770 556 9	\$1,90x \$1,90x x,725 386 6,06 6,06 4,467 3,885 2,567 29,279 6,616 919 517 294 100 104	1876. \$1,814 808 408 6,133 4,265 3,032 9,501 31,267 6,587 1,038 332 211 109	1877. \$1,884 908 384 6,266 3,833 2,984 2,277 32,849 7,026 1,096 453 298 11
\$1,990 969 937 5,8662 4,891 4,118 1,973 32,405 5,143 774 689 1,863 8	\$2,000 1,208 482 8,500 3,831 4,225 2,822 33,979 5,308 1,279 770 556 9	\$1,90x \$1,90x x,725 386 6,06 6,06 4,467 3,885 2,567 29,279 6,616 919 517 294 100 104	1876. \$1,814 808 408 6,123 4,265 3,032 2,501 31,267 6,587 1,038 332 211 7 109	1877. \$1,884 908 384 6,266 3,823 2,954 2,277 32,849 7,026 453 2,96 2,96 2
	310	483 S11 129 324 1,798 2,156 3,596 2,871 1,488 1,373 601 1,032 1,5596 4,532 4,532 4,424 885 750 345 760 784 1,032 1	483 511 628 129 24 99 17,795 2,156 2,337 3,596 1,488 1,373 2,654 4,424 4,453 885 750 970 345 703 784 1,032 1,303 1,032 1	483 511 628 509 1798 7.156 2.337 3.907 3.596 2.871 2.337 3.907 3.596 2.871 1.373 2.634 3.534 691 1.032 1.332 1.335 2.636 4.532 4.424 4.453 3.671 885 750 970 7.044 784 1.032 1.303 1.804 784 1.032 1.303 1.804 785 1.032 1.303 1.804 786 1.032 1.303 1.804

The general export from Sweden, as the foregoing table shows, doubled during the ten years; it also doubled to England, while to the United States it increased from \$784,000 in 1868 to \$2,310,000 in 1872, thence receding to \$198,000 in 1877. This, we presume, is principally due to the decreased importation into the United States of Swedish iron.

We shall choose the year 1877 in order to show the nature of Swedish imports and exports:

POREIGN TRADE OF SWEDEN IN 1877.

Products.	Import.	Export.
Live animals	\$279,600	\$1,811,200
Provisions	7,313,600	2,448,20
Breadstuffs	12,685,400	8,254,000
Colonial produce,	13,392,400	27,600
Vegetables and fruits	1,025,800	\$1,600
Ale and liquors	1,489,400	92,400
Textile fiber	5,590,000	98,500
Twist	2,367,600	105,000
Dry goods Hides, hair, horns, feath-	12,411,000	760,800
ers. &c	3,996,600	262,600
Manufactures of	449,000	18,200
Tallow, oils, tar, gums, &c.	2,941,800	228,600
Manufactures thereof	60 5,000	75,200
Spars and timber	256,200	31,944,200
Lumber and woodenware.	356,400	3,817,000
Dyes and paints Vegetable matter not enu-	663,600	73,200
merated	2,297,200	232,800
Paper and stationery	812,600	1,095,400
Ores	5,503,600	355,600
Earthenware	813,200	238,200
Metals	2,545,400	8,863,200
Manufactures thereof Vessels, carriages, machin-	3,157,000	267,000
ery and instruments	3,660,200	984,200
Other goods	383,400	357,000
Total	\$85,026,000	\$60,768,000

The principal articles of export are timber. lumber and woodenware; the importation of food products largely exceeds their export. There is an excess of exports of metals, a large importation of ores and of manufactures from metals.

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SWEDISH	-																	_					
Cotton																							
Bacon																							1,860,00
Twist and wo	ol€	m	3	yε	M	T.	١.				0	. ,								0	۰		900,000
Gold bullion.																							754.00
Manures				,																	۰	0	439,40
Leather																							635,000
Pig iron		* *			,		. ,	. ,				٠,				.,	, ,						236,000
Rails			*		×		. ,		*	ŕ					*					*	*	,	1,580,00
Coffee																							1,716,000
Machinery an																							1,300,000
Molasses																							477,000
Raw sugar																							596,000
Coal																							3,753,000
Dry goods																							2,754,800
Other goods				. 0	0			۰	0		0 1		0	a	0				0		0	0	5,902,200

Pig iron		6.8	2.3						,	. ,	. ,			,		*	*							\$380,00
Wrought an																								
Live animal	8.					,	0						٠		0		0	0		0	0	0 1	0 0	320,00
Paper				۰							۰	0		, ,				,				۰		857,20
Butter																								993,600
Breadstuffs.								0					 			0	0			0	0			5,740,000
Steel							۰						 										0.0	540,000
Timber and	lu	m	ιħ	и	r														ľ					18,217,000
Matches																								
Other goods.																								8,001,400
Total																							9	San Ran. 000

While Sweden imports from England chiefly coal and dry goods, rails, cotton, colonial produce, machinery and tools, she sends thither iron, breadstuffs and other food, but principally the product of her forests. American statistics always comprise

Sweden and Norway taken together, and therefore do not show what Sweden takes from us individually. It is evident, however, that machinery and tools of American manufacture might be pushed in that direction, and the same is true of provisions petroleum and a great many minor articles. For cotton, Liverpool is probably too handy to the Swedes. American scales, we know for certain, have been readily taken in Sweden, and there may be a great many other similar articles which would become popular if properly introduced.

A most interesting feature of the revival of the iron trade, and one that indicates its extent, is the blowing in or contemplated blowing in of furnaces that have either been reported as abandoned or that have been virtually abandoned. These facts come from all parts of the country. It is not our The imports, it will be seen, more than intention to give a list of these enterprises.

the enormous purchases which were reported as having been made in England for American account, would come across the At-lantic. It will be of interest, therefore, to inquire into the actual state of affairs, ag revealed by the statistics of those three months. During this period England shipped to America the following quantities of iron and steel, raw and manufactured, compared with the corresponding months in 1878, the difference fairly representing the effect of the sudden improvement in business here:

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62,600

73,200

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The most remarkable increase is that in pig iron, which shows shipments of 131,639 numerous inventors, notably Levet, Garforth and Dubois François, to break down coal without the use of powder. As an interesting point, he mentions incidentally that rock drills are employed at the Rammelsberg, in the extent of 14,000 tons. A fact well worth attention is that until now, during the whole 10 months just elapsed, the aggregate of shipments of steel rails has only been 13,682 tons, which would indicate that, if the rumors of large purchases some months ago have had any foundation in pressed powder for blasting purposes, are ments are not exceptional, and cannot therefore be used to illustrate the importance of the abnormal condition of affairs which has been brought about by recent events in this country.

It is very rarely that a foreigner, unless he has given our country a careful study, gets at the real hindrance to our industrial development. Mr. Bell, in his little pamphlet on the coal and iron of the United States, published after his first visit to this country, saw it and hinted at it, but his application of it was to our manufacturing industries. Now a writer in the Journal des Dibats, in an article on American competi-Dibuts, in an article on American competition, sees it and uses it as an argument why European agriculture need not fear the American farmer. He says: "European working mines is of particular interest. He agriculture will not capitulate, since it has capital and labor and the great cost of transportation from inner America to Europe on its side." It is high-priced captal, expensive labor, but above all the great cost of transportation, that hinders the progress of our industries, especially in finding markets abroad. This is particularly true of our food and provision exports. It is only the two excellent harvests in this country and

troduce Prof. de la Goupillière to the reader of The Iron Age as an author on that much of The Iron Age as an author on that muchdiscussed question, the prevention of colliery accidents, commending his wide acquaintance with and skillful use of current
technical literature. In a work of the character now before us, wide scope is naturally
given to the diligence and discretion of a
compiler—a review of recent progress in two
important branches of modern engineering
requiring not alone a close study of methods
actually in use, but a critical examination of
changing conditions, uson which a generalchanging conditions, upon which a generalized survey of modern progress can only be founded. M. de la Goupillière does not, therefore, enter into any detailed description of local methods or appliances, but touching of local methods or appliances, but touching lightly upon them gives what, in his opinion, constitutes the true motive for late modifications, and points out what to him appears to be the drift of modern progress. We shall attempt to summarize briefly what are the attempt to summarize briefly what are the conclusions at which he has arrived, and shall dwell particularly on his review of recent progress in the working of mines, as it covers a subject upon which those in charge of American mines have still much to learn.

M. de la Goupillière seems to attach some importance to the attempts made of late by numerous inventors, notably Levet. Garforth

numerous inventors, notably Levet, Garforth

which we believe were first used in the Hartz, are gaining in favor rapidly, both in Hartz, are gaining in favor rapidly, both in France and in Germany, while the question of using impregnated wood for timbering is still one which is engaging much attention. In this direction M. Fayol's method of using copperas or sulphate of iron is spoken of as having yielded good results. While iron is extending as a material for the support of galleries, its advances for lining shafts have been particularly noteworthy, iron tubing being largely introduced in the coal regions of France, Belgium and Germany. The of France, Belgium and Germany Chaudron method of sinking shafts has been considerably improved, and some successful repairs of endangered pits sunk by the system, notably by Mr. Lévy, have proved that damages done to it by moving ground

finds that much more attention is paid to a strict application of the system adopted, and that there is a marked tendency to concentrate the workings within a comparatively limited portion of the mine, notably in collieries, the advantages secured being a lessening of the danger of heating of the coal, an increase in the proportion of block coal obtained, and an extension of the systems of mechanical hauling by iron rope. These ad-vantages must be decisive in mines which are the two failures of crops abroad that has made on the other hand, it makes explosions more

THE IRON AGE.

The admonance of it is a deposition to so many contingencial that the amount may be rearried as an amount may be rearried to the state that amount may be rearried to the state of the amount may be rearried to the state of the amount may be rearried to the state of the amount may be rearried to the state of the amount may be rearried to the state of the amount may be rearried to the state of the amount may be rearried to the state of the amount may be rearried to the state of the amount may be rearried to the state of the amount may be rearried to the state of the amount may be rearried to the state of the amount may be rearried to the state of the amount of the state of the amount may be rearried to the state of the amount of the state of th

THE SCHOOL OF MINES QUARTERLY, of Columbia College, New York.

The School of Mines Quarterly, of Columbia College, New York.

As a new departure in college journalism, the Quarterly, which is edited by Messrs. Starr, Beebe, Kunhardt and Wiechmann, deserves the support which every earnest effort to acquire and disseminate knowledge fully merits. The object is certainly a good one, and is in strong and favorable contrast with the larger portion of college publications, which, as a jumble of boating and football notes and weak jokes, can awaken little interest beyond the small circle for which they are written. The pages of the magazine before us are well filled with interesting articles, some of which are the results of original work. Prominent among them are Mr. F. Wiechmann's "Coffee and its Adulterations," Mr. A. P. Hallock's "Chloral," and Prof. Munroe's "The Pedometer." We imagine that if the students of the School of Mines take a strong dents of the School of Mines take a strong dents of the School of Mines take a strong and personal interest in this new and promising venture, it could be made to acquire interest far beyond the narrow limits of the college. It ought to reflect in its pages the results of honest work done at the college, and its contents could be easily made up of records of analytical work and studies made during visits at important machine shops, mines and metallurgical establishments.

ment. It came up for a hearing on the 6th and 7th of October before Judge Blatchford, in the United States Circuit Court for the Southern District of New York, Mr. B. F. Southern District of New York, Mr. B. F. Lee being attorney for the plaintiff, and Messrs. B. F. Thurston and A. V. Briesen, attorneys for the defendants. Judge Blatch-ford has just rendered his decision denying as the then assignees of the Billings patent, some time since asked for a preliminary in-junction against Messrs. Johnson, Black & Co., which Judge McKennan denied. His decision reached this city a few days before the beginning of the argument of counsel in the auit then pending here, and while Judge Blatchford, in accordance with the usages of legal ethics, has framed his opinion in a manner which makes it appear little more than a coincidence with Judge McKennan's views, it is proper to say that the case was fully argued here, and that Judge Blatchford, with whom, of course, the earlier decision had much weight, nevertheless in reality reheard the whole

CIRCUIT COURT OF THE UNITED STATES FOR THE SOUTHERN DISTRICT OF NEW YORK. THE KEROSENE LAMP HEATER CO. J.
JAMES L. SHARP.

The fifth claim is not infringed

The motion for an injunction is denied.
B. F. Lee for the plaintiff.
B. F. THURSTON AND A. V. BRIESEN for

mines and metallurgical establishments. We differ from its conductors in one point. They seem to consider the opportunity offered to students to learn to prepare papers for publication only a minor consideration, while we think that one of the most important accomplishments of an engineer is to be able to embody the results of his observations or his researches in a clear and concise report or

the United States Supreme Court. The Singer Sewing Machine Company, the Dixon Crucible Company, Colgate & Co., R. Dunlap & Co., A. G. Meyers, E. Faber, J. Dwight & Co., W. H. Schieffelin & Co., P. Lorillard & Co., the Glen Cove Starch Manufacturing Co. and other prominent manufacturing firms were represented. Mr. Orestes Cleveland, of the Dixon Crucible Co., occupied the chair, with Mr. Francis. Co., occupied the chair, with Mr. Francis Forbes secretary. The president opened the proceedings with a short address, in which he stated the chiest of the work. Forbes secretary. The president opened the proceedings with a short address, in which he stated the object of the meeting. The decision of the Supreme Court did not, as many thought, seriously affect the rights of the owners of trade marks. The common ford has just rendered his decision denying the motion for an injunction in favor of the plaintiffs, the Kerosene Lamp Heater Company. Before giving it in full it will be necessary for us to recapitulate the main points of Judge McKennan's decision in the United States Circuit Court for the Western District of Pennsylvania, which was printed in full in The Iron Age of Cotches as a Sec. It will be represented in full rade marks uronerly adopted though. for the Western District of Pennsylvania, which was printed in full in The Iron Age of October 23, 1879. It will be remembered that Messrs. Couse & Blood, of Pittsburgh, as the then assignees of the Billings patent, unless the government provides a means of continuing this registration. The only value of such an office would be as a means of establishing priority. The decision does not af-fect the rights of manufacturers in any way whatever. In 19 States there are no trade-mark statutes; all the rest have such stat-utes, and in most of these infringement is punished. But it is probable that trade-marks can be protected in all the States by civil suits under the common law.

An English View of American Politics.

The Keroseve Lamp Heater Co.

James L. Sharp.

S. Blatchford, J.—As to the first claim of the patent, I concur with Judge McKennan, as to its construction; what might be claimed on a reissue, is another question, but as the claim stands, it cannot properly receive any other construction. On that construction, what is claimed is shown not to have been new.

I also concur with Judge McKennan in his view that what, on that construction, is claimed, was not novel.

I also concur with him in his views as to the third claim, and as to its want of novelty.

The fourth claim is not in question in this suite.

The fourth claim is not in question in this suite. The extent and variety of the information enthusiasm, but which is altogether deaf to commonplace party cries." She has been "visited in her retirement at South Kensington by a deputation of seven American gentlemen, who themselves control about a the defendant.

We learn in regard to the above denial of a motion for a preliminary injunction, that the Kerosene Lamp Heater Company are as yet undecided as to which of two courses, and her great deeds in "laying bare certain

The Blast Furnaces of Great Britain.

- T

Clists.			
	In Blast.	Out of Blast.	Total
Cumberland	31	9.2	5.3
Derbyshire	38	93	5.8
Durham	17	4.4	61
Gloucestershire	2	7	0
Hampshire		Y	9
Lincolnshire	13	8	2.0
Lancashire	30	16	52
Northamptonshire	14		2.2
Northumberland	. 1	3	A
South Staffordshire	35	OBT	144
North Staffordshire	23	37	2.0
Somersetshire		1	*
Shropshire	7	20	22
Wiltshire	2	5	7
West Riding, Yorkshire	23	21	44
North Riding, Yorkshire		39	EDG
North Wales	2	0	2.5
South Wales	54	94	148
Scotland	95	56	252
	-	oracean.	Trans.
Total	450	493	949

McKennan's views, it is proper to say that the case was fully argued here, and that Judge Blatchford, with whom, of course, the earlier decision had much weight, nevertheless in reality reheard the whole case, which was thus tried twice.

The first claim of the Billings patent is for "the use and adaptation of the body or"

Mr. Forbes suggested that the association institute a registry office, and stated that the directors of the North German Lloyd's Steamship Company have decided to refuse manufacturers.

Mr. Wright Duryea, president of the Glen Cove Starch Company, offered a resolution, which was subsequently withdrawn, that a of spontaneous combustion

Special Notices.

FOR SALE.

To Close Partnership.

We will sell the following property at private sale to close the partnership of D. Hillman & Sons THE TENNESSEE ROLLING MILL,

situated on Cumberland River, Lyon County, Ken-tucky. ten miles from Paducah and Elizabethtown

Railroad.
This mill consists of the following machinery:
1 Plate Mill, 96x26; 2 High Rolls, driven by 60x30
engine; 1 Steam Hammer—Condee's—5 ton and
4 foot stroke.
2 Plate and Sheet Mill, 76x22.
16-in. Bar Mill, train complete.
19-in. Bar and Rod Mill; 18-in. Bar and Hoop Mill.
9 Puddling Furnaces; 13 Knobbling Fires.
15 Boilers, 12 engines, large and small; Muck Train,
Barden Squeezer. Barden Squeezer, &c. Run-out Fire, 7 Heating Furnaces, 2 Annealing

Furnaces.
Pair Shears, r. Steam Saw, r. Testing Machine,
Railroad Tracks and Scales, full sets of all Tools
needed, Store House, Office, Warehouse and
many workmen Houses, with 6500 acres land.

The TRIGG FURNACE,

In Trigg County, Kentucky.

A first class Furnace, new, built in 1872. Charcoal furnace—48 feet high, 12 foot bosh; 60 pipe; Davis Hot Blast; Four Bollers; Horizontal Engine, 6-foot stroke, 20 in. dlameter; 3 Blowing Cylinders, 6 feet by 36 inches diam. Furnace arranged for Hot or Cold Blast. Pig has great reputation. With 5500 acres of land.

TERMS OF SALE, -1-4 cash. Balance on 1, 2 and 3 years. Lien retained to secure purchase noney.

This property is reached by Paducah & Elizabethtown R. R., Eddyville, Ky., Station. or via Cumberand River. Correspondence solicited. Parties will
be shown the property at any time.
Furnaco or Mill. either. will be sold separately, if

desired.

The Boiler Plate and other Irons made at these works have a national reputation, being known as "Tennessee Iron." Address D. HILLMAN & SONS,

Tennessee Rolling Works, Lyon Co., Kentucky.

For Sale,

THE ROUGH AND READY HOT BLAST CHARCOAL FURNACE

situated in one of the healthiest regions of Tennessee, with all its modern improvements, including a 50 horse-power engine, and two 40 feet boilers. The furnace is in close proximity to inexhaustible supplies of rich brown hematite ore and limestone, and the rail and river shipping facilities are excellent. Iron can be manufactured for not exceeding \$18.00 per ton, and put into mariset within \$2 hours. Furnace can be put into blast without much expense for repairs. Included in the property are 900 acres of fine timber land, (including \$300 acres which are improved and under cultivation) a Saw and Grist mill with a \$1 horse-power engine fine boiler. Carpenter and Blacksmith shops. Stables and Cribs, Coal, Engine, Cinder, Casting, Tool, Store and Ware, and about 60 Dwelling Houses. It is the wish of the undersigned to sell only the whole of this property, which can be bought on reasonable and liberal terms. For further particulars

D. THEOBALD, Youngstown, Ohio.

A. GUCKENHEIMER & BRO.
93 First Avenue, Pittsburg, Pa. PRIVATE SALE

OF A VALUABLE Rolling Mill Property.

The undersigned offer at private sale that certain property known as the "Codorus Steel Works," formerly the property of the York County Iron Company, situated on the Aorthern Central Railway and the Frederick Division of the Pensylvania Railroad, at York, Pa. The tract contains about seven acres of ground, with a stream of water passing the same, and on which is creeted a frame Iron roof Rolling Mill Building, about 10 x 2xc feet.

The Machinery consists in part of the following, to wife:

Steam Engine, 15 H. P., with two pairs of Shears. Steam Engine, about 40 H. P., with two Blowing

r Steam Engine, about 10 H. F., with two Blowing Cylinders.
I Steam Engine, about 10 H. P., with Duplicate Cylinder.
11 Fudding and Heating Furnaces.
15 Boilers. Steam Hammer.
1 Train Rolls for Merchant Iron.
1 Train Round Iron.
1 Train Round Iron. Several Trains for T-Rails.
1 Crusher. Funch, Saws. Tools, &c.
The above property will be sold at a bargain. For further information apply to the

FARMERS' FIRE INSURANCE CO.,

York, Pennsylvania.

Bolt and Nut Tools AT PUBLIC SALE.

e sold at Public Sale on WEDNESDAY, the of December next, at the Bolt and Nut Works y owned by M. B. Stotsenburg & Co., Wil, p. Del., a large lot of Tools, such as Punching s. Bolt Cutters, Lathes, Drills, Planing and Machines, and all kinds of Tools commonly such business. Scaping Machines, and all kinds of Tools commonly used in such business. Safe to commence at 1 o'clock P. M., when conditions will be made known by GEORGE S. CAPFILLE OF ALLEN GAWTHIOP, Committee, Wilmington, Del. Please send for Catalogue.

Wanted Immediately,

Pair 16 inch or 18 inch by 3 feet or 31/4 feet con nected Link Motion Engine State price and all particulars

C. W. BROWER. Tremont Iron Works, Tremont, Schuylkill Co., Pa

For Sale or Lease. FOUNDRY. NEW YORK CITY.

The plot of ground measures 275 ft. frontage by 125 feet deep. It has a splendid Foundry, 602165 feet, with cupolas, cranes, &c. If leased, additional buildings to any extent will be erected to accommodate any kind of manufacturing business, Apply to WM. J. FRYER, Jr., Ætna Iron Works, 124 Goerck Street.

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P. O. Box No. 483, Elyria, Ohio.

Blast Furnace.

Special Notices.

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The Extensive Engineering Establish-

ment known as

THE SOUTHWARK FOUNDRY,

PHILADELPHIA.

This property occupies the entire square bounded by Washington avenue, Federal street, Fourth and Fifth streets, and covers about 3½ acres. A track runs eutirely through the works, connecting with railway system of the country, by which raw material can be supplied to the various departments, and finished machinery loaded on cars by means of a power shaded machinery loaded on cars by means of a power pattern Shop, nearly the Tar. I want to the control of the country of the pattern storage rooms, entirely fire-proof, cach... 24x6. Foundry.

The second story of the office is one room for the drawing department, connecting with the Superintendent's office, and will accommodate twelve to fit. All of the above are brick; the office, boiler shop and pattern shop fronts on Washington avenue being of pressed brick and harmonious in design. The shops are supplied with all the tools requisite to carry on a business amounting to over a million dollars per annum, and to employ advantageously from 700 to 800 men. Machinery all driven by power, as follows; Boiler located in boiler house, about the center of the property; pattern shop has Daniel's planer and a line of lathes driven by a horizontal eagline. Foundry has extensive core-ovens, overhead railway crane, driven by ower crane, driven by pure mill engine; a pair of vertical blowing engines, hydraulic lift for coal and ron; two large cupolas, and all requisite fixtures. Brass foundry has four pot furnaces and a small cupola. Erecting shop has in it two large planing machines, one of them a pit machine, which takes a piece of work 8 feet wide, 20 feet long and 20 feet high, and in which the tool travels. The other is a heavy table planer 1250x20 feet, in which the work travels. Two power cranes, lifting 20 tons cach, command the floor, and a power crane commands the track, for loading heavy work, and a large lathe, 'feet swing, and heavy work, and a large lathe,' feet swing, in the machine shop, all the tools are of improved construction, driven by two lines of shafting on each floor, all operated by a large horizontal engine, driving them, throug's belts, in such a manner as wil allow each line to be thrown out without interfering with the others.

The lower floor is commanded by cranes through its whole length. A hoist communicates with the second floor, on which are small lathes and planers, and the third, on which are storage rooms. The boller shop is fitted with power rolls, power riveter with hoist, to take a cylinder boller of red long. Punch and shears with the second floor, on which are small lath

On adjoining lot is a stable 18x64, which will be sold ith the property.

For further particulars, price, terms, &c., address

MERRICK & SONS.

230 South Third St.,

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Car-wheel Borer, Bement, 20 in. x 20 ft. Sellers Lathe, 36 in. x 12½ ft. Sellers Planer. Crank Planer, two Fox Lathes, Three Milling Machines, Screw Cutters, Rock Drill, Mine Hoist, 2 to 200 horse-power engines and bollers

horse-power engines and boilers,
A. G. BROOKS & WINEBRENER,
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WE QUOTE FOR STEEL OR IRON RAILS, STEEL TIRES,

Axles, Forgings, Bars, Plates, Angles, Sheets and Billets of any temper or for any purpose. Also, Steel Nail Sheets, Wire Rods, Springs, and all kinds of Steel goods. Also, Spiegeleisen, Ferro-manganese and Silicious Pig Iron, f. o. b. any British port, or c. f. i. any United States port. Thirty years' experience in the Steel Trade.

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Boiler 150-horse-power, engine 200-horse-power, and other smaller sizes. Machinery for rolling steel tires complete. Machinery for making ice with the greatest economy. All sizes built at short notice. Boilers built to order warranted the most Apply or address

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Barbed Wire Patent For Sale.

One of the strongest Patents and only Barb that will remain immovable on Plain as well as Twisted Wire.

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PRACTICAL

Prochamical engineer of 20 years' experience on car locomorations, the following engines, boilers, tools and general machine work, wants a situation as superintendent or manager of a manufacturing company. Is a draughtsman, and farr lilar with designing, estimating, organization of and working men in the construction of machinetry, building of railroads, shops, &c. Address, PRACTICAL

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SECOND-HAND Machinists' Tools.

One Engine Larbe, so in. x 16 ft. Wheeler, new.
One "25 in. x 14 ft.
One "25 in. x 15 ft., very heavy.
One "35 in. x 16 ft. Wheeler.
One "35 in. x 16 ft. Wheeler.
One "35 in. x 16 ft. Wheeler.
One "36 in. x 16 ft. N. Y. S. Eg. Co.
One "36 in. x 16 ft. N. Y. S. Eg. Co.
One "36 in. x 16 ft. Lathe & Morse.
One "36 in. x 16 ft. Lathe & Morse.
One "37 in. x 16 ft. Lathe & Morse.
One "38 in. x 16 ft. Lathe & Morse.
One "39 in. x 16 ft. N. Y. S. Eg. Co.
One "30 in. x 16 ft. Yes to the word of the control of t

E. P. BULLARD, 14 Dey st., New York.

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Discount Book.

Specially arranged for the Hardware and ther trades using Combination Discounts. Mailed postpaid on receipt of price. Bound in Leather, Silicate Leaves...

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On corner of two main streets, only one-quarter mile on level road from two railway stations. Size of lot 30 by 150 feet; main building, 30 by 100 feet; engine, 35-borse power. Buildings and machinery first-class and nearly new.

Underlaid and surrounded with coal, the cost of fuel for steam is merely nominal. Best forge coal \$1.50 per fon. With complete lines of shafting, &c., the premises can be easily and cheaply adapted to any light manufacturing business.

Former proprietor, after surcessfully manufacturing Axes and Edge Tools in the vicinity for 30 years, designed and built this shop at an expense of \$10.000 for the continuance of the business, but failed during the late depression.

Having neither time nor ability to run these

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For Sale.

One 18-in. Bar Train, 3-high, with rolls, for

ounds, flats and squares. One 18-in. Muck Train, 3-high One Breaking-down Train, 2-high

One Rotary Squeezer.

One Engine, 28x40.
One 4 14x30.
One 4 9x32.
One Rail Punch and Straightener, Two Rail Saws and connections, all in good order, having been in use only a short time. For terms

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near Fine Grove, Schuylkill Co. Capacity, 12c tons per week. With 14c acres of good Land, 2c Houses, Barns, Stables, &c. A branch of the Swatara Creek runs close to the Furnace. 2c miles from Cornwall Ore Bank, 12 miles from limestone, and 1c from coal.

THOMAS COUCH. POTTSVILLE, PA., October 9, 1879

A New Ax Factory For Sale at Half Cost. Built with all modern improvements and at panic prices in 1876. Building, machinery and engine all complete, in first class order, ready to start; capacity about 150 dor. axes or tools per day. Both steam and water communication with coal mines, New York and the West. Coal landed in bins from canal without cartage. Location in great from majuracturing center. Address A. M. HANNON, Cohoes, N. Y. Or J. H. PARSONS,

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The Rolling Mill Property at Topeka, Kansas, known as the Topeka Rolling Mill, for rerolling old rails. Capacity about fifty tons per day. Machinery of most approved kind and in good order, having been run but about six months. Parties desiring to lease or buy the property can do either on favorable terms. For particulars address.

T. B. SWEET, Topeka, Kansas, or ROYAL M. BASSETT, Birmingham, Conn.

Special Notices.

DON'T BUY

MACHINERY

UNTIL YOU WRITE TO US

for our List No. 20, containing full description with prices, of over 2000 New and Second-Hand Machines, such as

MACHINE TOOLS,

BLACKSMITH TOOLS, WOODWORKING MACHINERY, STATIONARY AND HORIZONTAL ENGINES AND BOILERS, PORTABLE ENGINES,

HOISTING ENGINES, CAR MACHINERY. WATER WHEELS. COTTON AND WOOLEN MACHINERY.

SAWS

STEAM PUMPS, &c., &c.

PRICES FAR BELOW THEIR TRUE VALUE.

of ONE FIRM before, and at

We offer the largest collection ever in the hands

Enclose stamp and state fully just what Machine or Machines you are in want of. Address

S. C. FORSAITH & CO., MACHINISTS,

AND GENERAL MACHINE DEALERS.

MANCHESTER, N. H. LAMBERSON'S

HARDWARE PRICE BOOKS

BUELL LAMBERSON. No. 97 Chambers Street, New York City, For sale at publisher's prices by Wm. Blair & Co. Chicago; A. F. Shapleigh & Co., St. Louis; C. B. James, Detroit; Edward Bultman, 1994; Vibs ets. Cincinnat.

A Woodruff & Beach Beam Engine,

Low pressure, 42-inch cylinder, 84-inch stroke, with fly-wheel pulley 20 feet diameter, 36-inch face, and

Four Tubular Boilers, 60 inches in diameter, so feet long, and all connections practically as good as new. For sale by

The Geo. Place Machinery Agency,

121 Chambers and 103 Reade St., NEW YORK.

WANTED.

A competent and skilled workman as foremen of a Tool and Vise Works. Must be middle aged, strictly temperate, competent, trustworthy and accustomed to steam. Irip and drop hammer work. To such a man, and one proving himself worthy, a very fine Address.

position is assured.
Address.
Address.
Sylvo 68 South Clinton street,
Chicaro, III.

FOR SALE.

A large lot of BARBED FENCE WIRE, at very low figure, in quantities to suit purchasers, The very best STEEL WIRE made. Terms, spot A. W. WHEELER,

141 Lake Street, Chicago.

WANTED.

A traveling salesman to represent in the West a Chicago Heavy Hardware house. He must be a representative man, possessing character and ability that will fit him for canvassing the best trade. None but a man of large experience and good standing can fill the place. To the person wanted a permanent position and good salary will be given. Address, with references, CHICAGO. Office of The Iron Age. 83 Reade St. New York.

Blast Furnace Manager Wanted.

An able and experienced manager and book keeper is wanted; also a founder. Address, stat-ing ago, references, salary desired, &c., &c., C. S. HURD, p8 William St., New York.

Charcoal Furnace Wanted To Lease.

One well located and able to make cold blast car-wheel iron of best quality. State size, age, facili-ties, cost of repairs and of making iron; terms to lease, and where iron has been used. Address COLD BLAST, Office of The Iron Age, 83 Reade St., N. Y.

WANTED—By a young man, a situation in a caquainted with tin plates and sheet irons, and can furnish the very best reference. Has had six years' experience in the hardware trade.

Address

U. S. Hotel, Portland, Me.

ASTONISHING POWER PUNCHING & SHEARING PRESSES.

See our illustrated advertisement on next to last page of this paper. PEERLESS PUNCH AND SHEAR CO.

52 Dey Street, New York City TO FURNACE MEN.—FOR SALE OR LEASE.—Group of developed Magnetic Iron Mines, convenient to shipping point on Lake Ontario. Ores run about 65 per cent. metallic Iron, and make tough Iron or Bessemer steel. Average cost mining and freight to Cleveland about \$2.50 per ton. Apply to BAWDEN & MACHAR, Kingston, Ontario.

Special Notices. GLENGARNOCK

PIC IRON.

In yard, for sale in lots to suit purchas-

DANIEL W. RICHARDS & CO.

92 Mangin St., New York.

ENGINEERS! The Right Men in the Right Places.

Having posted ourselves in the specialties of many well-known engineers and chemists, and having made favorable contracts with them, we have prepared to supply their services For Designing, Constructing and Testing Ma-chinery and Fitting up Factories, For Hydraulic Works; for Bridge Building, For Mining Work of all Kinds, For Blast Furnace Building and Metallurgical

For Blast Furnace Building and Metallurgical Operations.
For Sanitary Engineering; for Surveys.
For Railronds.
For Raports on New Inventions for Capitalists For Analyses and Assays.
For Expert Testimony in Law Suits.
For Expert Testimony in Law Suits.
For Expert Testimony in Law Suits. The Best Talent at Moderate Cost. PARK BENJAMIN'S SCIENTIFIC EXPERT OFFICE,

37 Park Row, - NEW YORK.

JOHN R. WHITLEY & CO.,

European Representatives of First-Class American Houses. WITH

FIRST-CLASS AGENTS IN THE

Principal Industrial and Agricultural Cities and Centers of Europe. TERMS ON APPLICATION.

Poultry, E. C. 8 Place Vendome.

THOS. TURTON & SONS.

WM. CREAVES & SONS, Steel, File and Railway Spring Manufacturers.

desire to give notice that they have removed their place of business from 102 John Street, New York, 40 Kilby Street, Boston,

SHEFFIELD, ENGLAND,

where their American interests will be in futu-under the management of MR. ALEX. A. ARTHUR. JOHN E. SWAN & BROTHERS, IRON MERCHANTS,

Glasgow and Middlesbrough,

Scotch & English Pig Iron.

Exporters of all brands of

c. f. i. to America and f. e. h. British ports. Old Iron Rails, Puddled Bars AND MANUFACTURED IRON.

The Sherman Process Co. 9 Pemberton Square, Boston, Mass.,

issue Licenses to use the Process for the Manufacture of Iron and Steel In the Bessemer Converter, Crucible, Sieme Martin, Puddling, Blast and Cupola Furnaces

The use of this Process improves the quality of the product, saves fuel and labor, and does not re-quire any change in furnace or manner of working See page 17 of The Iron Age of Oct. 25th, 1877. TO LARGE CONSUMERS of fine light

Malleable and Gray Iron Castings. We can offer special inducements in the way of very superior quality guaranteed, and at fair prices. Being ourselves large consumers and re-quiring the most perfect eastings, other work is ensured the same attention. MALLORY, WHEELER & CO., New Haven, Conn.

CALIFORNIAN AGENCY.

A San Francisco firm of File and Tool makers having an agent constantly traveling among the mers in the State and West Coast, is desirous of representing some first-class Eastern Houses in the manufacturing hardware trade.

Address AGENCY, 248 Beale 86.,

San Francisco, Cal.

TO MANUFACTURERS AND CAPITALISTS.

FLOWER PINS. PATENT FOR SALE.

> J. H. PLUMMER, 276 Pacific Street, Brooklyn, N. Y.

FOR SALE, Job Lots and Bankrupt Stocks Hardware.

Great bargains offered to the trade. A. W. WHEELER,

141 Lake St., Chicago, Ill. Sanderson Bros Steel Co.

A limited number of shares for sale by EDWARD FRITH & HON, 241 Pearl street, New York

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Nov. 10, 12

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OR S.

Addi

Special Notices.

TO BRASS FOUNDERS.

A Rare Opportunity.

FOR SALE.

Patterns for Brass Goods, Cast Iron Fittings, and Steam Radiators.

LATELY BELONGING TO THE

DETROIT NOVELTY WORKS.

of Globe, Angle, Safety and Chuck Valves, Brass Iron Bodies; Safety, Back Pressure and Cross res; Steam Cocks, brass and Iron; Blow-off Cocks, Bibbs, Steam Stops, Union Meter Cocks, Service is; Mississippi, Tee and Lover Handle Gauge is; Mississippi, Tee and Lover Handle Gauge is; Mississippi, Tee and Lover Handle Gauge, Whisties, Pet Oocks, Cylinder Cocks; Hollow, Locometive and Plain Off Cups; Gong Bella and complement of Brass Fittings; Pain, Wash Tray, and Hose Bibbs; Compression Plain, Hose, and Waste, Shower and Circulating Stops, and Waste, Shower and Circulating Stops, Seed and Straight Rough Stops, Compression and Closing Basin Cocks, Bash Plugs; Racking, Boller Globe Cocks; Sink Plugs, Boller and Waste-back plings, Ale and Beer Cocks, flose Plpo Couplings Nozzles.

ggles. Fittings latterns embrace Elbows, Tees, s, Return Bends, Plugs, Caps, Locknuts Bush lange Unions, Manifolds, Flanges and sipe igs, Flange Chlons, ook Plates. The Steam Radiator Patterns are complete from 8 to ge number of other patterns are also included

he lot.

nese patterns are in good condition, and form a plete outfit for a Brass Goods Establishment.
y will be sold very cheap, and on easy terms, to
one who will take the whole. The first cost was
less than \$25,000. To a firm of small capital they
afford an opportunity of starting and building
valuable business, especially in the West, where
bottotk Novelty Works were among the largest
ufacturers in their line, and their goods were
known. manufacturers in well known.
For further particulars apply to the

DETROIT IRON & BRASS MFG. CO., Detroit, Michigan.

BERLIN AND TUSCAN **BRONZED HARDWARE**

As a recent decision of the United States Supreme Gourt makes void patents for trade-marks, we take this method of substantiating our claim to the following named trade-marks, viz. "Berlin Bronzed;" "Tiscan Bronze" and "Berlin Bronzed;" "Tiscan Bronze" and "Tuscan Bronzed, by hereby giving public notice that by long-continued and exclusive use we have, under common law, acquired the sole and only right to one and all of the four above named trade-marks, and all persons are cautioned against using either of the words "Beronse" or "Bronzed" on labels, circulars or in descriptive catalogues or price lists.

Very respectfully,

NEW HAVEN, Conn., Nov. 19, 1879.

New Haven, Conn., Nov. 19, 1879.

Valuable Mineral Property for Sale.

Situated upon the New Jersoy Midland Railway, poar the village of Hamburg, Sussex County, N. J., adjoining land of Moses Taylor, Esq., and about half a mile from the mineral property of the New Jersey Zine Company, and in the line of the mineral of Moses Taylor and the Franklinite Iron Company. A prolongation of the velus of zine and Franklinite of those companies would run about half a mile through the property. The farm is one of the most valuable in Sussex County, containing s15 acres, and has a grist mill and other buildings upon it, the present rental of which is equivalent to 2 per cent upon the price asked, viz. \$40,000. There is also upon the property an extensive deposit of white limestone. Apply to JOHN H. BROWN, Agent, Wawayanda, Sussex County, N. J.

FOR SALE.

A 1000 Pound Steam Hammer.

ALSO

Irs

0.

A BOILER PLATE SHEAR.

Both Tools by Ferris & Miles, of Philadelphia. Neither one has ever been in use. Address.

THE JOHN A. ROEBLING'S SONS CO., Trenton, N. J.

TO DEALERS IN SAR-CENT'S HARDWARE.

whereas we are informed that threats of law suits and injunctions have been made to our customers by the patentee of a particular process of bronzing metal, unless they should discontinue the purchase and sale of our "Borlin" and "Tucan" Bronzed Hardware; therefore this is to give you notice that we will protect you against all damages and costs if you are sued under the patent of one Hiram Tucker for buying or selling the goods made by us.

Should action be commenced or th eatened, please inform us promptly and we will furnish legal counsel if necessary, and will see that you are not annoyed or disturbed in the peaceful and proper occupation of distributing our Hardware.

Very respectfully,

SARGENT & CO., Original and only manufacturers of the genuin Berlin Bronzed Hardware. New Haven, Conn., Nov. 12, 1879.

Jute Machinery for Sale,

Consisting of 4 break cards, 4 finish cards, 1 Robing frames, 6 spinning frames, 9 looms, drawing frames, oap winder, calender, &c. Harris-Corliss engine, 12136, shafting, belting, Harrison boiler, &c., all in perfect order. With a daily capacity of 3000 yards. Bagging from butts or tow. For particulars inquire of H. L. FEARING & CO., Nov. 20, 1879, 91 Commercial st., Boston.

WANTED-RAILS.

Any party having 200 to 300 tons of second hand good from or steel rails, from 30 lbs. to the yard and upward, for sale, can address,

D. H. JEROME & CO.,

Saginaw, Mich. WANTED.—A situation as manager in a tin derstands the practical parts of both iron and steel making for boiler plates and all kinds of iron making. Address RICHARD JONES.

Care HEZEKIAH JONES, No. 19 Hyde Park, Vermont,

L'OR SALE OR TO LEASE.—Factory property at Elizabethport, N. J., comprising casting, annealing, tumbling and fluishing shops; also engine and boiler and tools to make saddlery hardware or other malleable-tron goods.

P. BALEN, 84 Broad St., New York.

Trade Report.

Office of The Iron Age, Tuesday Evening, November 25, 1879. As the interruption of a general holiday causes us to go to press one day earlier this week than usual, our report lacks some of the customary tables, which could not be obtained at the Custom House in time to go into this issue.

The financial markets, since our last re port, have been active and excited, owing to a very active speculation in securities and an average advance in prices, which is out of all proportion to the appreciation in the value of property represented by shares. In the local money market call loans on good securities, readily convertible, are firm at 6 @ 7 %, and at times a high commission has been exacted. Time loans are 5 @ 6 %, prime mercantile paper, 6 @ 6½ %.

In the stock market there has been an active speculation, with considerable fluctuations in values. We give below the quotations of active shares at the close of business to-day.

Government bonds are active and firm Desirable railway mortgages and approved investment shares are steady. We give below the closing quotations of governments.

The bank return shows an increase of \$629,275 in surplus reserve, which now stands at \$6,477,555 surplus, against \$12,206,400 at this time last year, and \$10,658,375 at the corresponding period in 1877. The loans show a gain this week of \$7,555,600; the specie is up \$7,013,900; the legal tenders are decreased \$3,610,600; the deposits other than United States are up \$11,096,100, and the circulation is increased \$74,700.

The following is an analysis of the bank

twas woor .				
	Nov. 15.	Nov. 22.	Corr	parisons.
Loans 8	1868,538,800	\$276,194,400	Inc.	\$7,655,600
Specie	43,922,800		Inc.	7,013,000
Legal t'nd'rs	22,595,800	18,985,200	Dec.	
Tot. reserve.	65,588,600	68,991,900	Inc.	3,403,300
Deposits	239,210,200	250,297,300	Inc.	11,090,100
Reserve re-				
quired	59,800,300	62,574,325	Inc.	2,774,025
Deficiency	5,788,300	6,417,575	Inc.	690,275

in the following tables:

IMPORTS. For the week ended November 22:

Dry goods General mdse	1877. \$770,219 3,948,366	1878. \$883,291 4,485,940	1879. \$1,404.56 8,961,54	
Fotal for week. Prev. reported	\$4,718,585 a86,908,436	\$5,369,231 252,795,575	\$10,366,16 289,435,25	
Since Jan. 1	the impo	rts were		

Quantity, Value

Anvils	\$4,016
Brass goods	5,035
Bronzes9	1,520
Chains and anchors	1,764
Copper	29,289
Cutlery 118	37,506
Guns111	14,228
Hardware18	1,482
Iron, pig, tons	339,473
Iron, hoop, tons	11,570
Iron sheet, tons	21,887
Railroad bars	851
Iron ore, tons5,006	14,633
Iron, other, tons 13,315	357,800
Lead, pigs	7,164
Metal goods	15,850
Nails3	749
Needles25	10,073
Nickel	2,750
Old metal4	5.070
Plated ware	362
Percussion caps	6,755
Saddlery	3,963
Steel3,701	25,057
Spelter275,746	12,322
Silverware	992
Tin, bxs44,204	220,181
Tin, 19,756 slabs999,583	184.765
Wire	15,844
Zinc 978,660	13,902
EXPORTS OR SPECIE	

EXPORTS OF SPECIE.	
For the week ended November 22:	
Total for the week	2,948,641 7,006,853
Total since Jan. 1, 1879	0.955.494 Were
Bid.	Asked.
U. S. 6's 1880 registered	10456
U S. 5's 1880 coupon	10436
U. S. 6's 1831 registered	10536
U S. 6's 1881 coupon 105%	10536
U. S. 5's 1881 registered 102%	10236
U. S. 5's 1881 coupon	20236
U. S. 414's 1891 registered	105 14
U. S. 41/2's 1891 coupon	106 1/4
U. S. 4's 1907 registered 103	1031/4
U. S. 4'8 1907 Coupon	10336
U. S. Currency 6's 1895123	-
U. S. Currency 68 1896	-
U. S. Currency 68 189719334	4000
U. S. Currency 6s 1898	One:
U. S. Currency on 18;91241/2	195
The following were the closing quo	tations
ofvactive shares:	

	U. S. 414's 1891 registered	105
	U. S. 4's 1907 registered 103	106
9	U. S. 4's 1907 Coupon	1035
	U. S. Currency 6's 1895	1033
	U. S. Currency 6m 1896	-
	U. S. Currency 68 1897123%	-
	U. S. Currency 6s 1898	-
	U. S. Currency on 18;9	dec
ı		195
	The following were the closing que	otation
*	of active shares:	
ì	Bid,	Asked
e.	Alton and Terre Haute	XQ.
	11 11 Pref 98%	90
	American District Telegraph 72-3/	73
	Atlantic and Pacific Telegraph 441/2	45
	Boston Land	54
•	Burlington and Quincy	180%
	Canada Southern 71	73
	Col., Chicago and Indiana Central. 2134	21%
	Clev., Col., Cin. and Indianapolis 77%	78
ı	Chicago, St. Paul and Minn 43	45
١	Chicago and Alton 97%	9854
	Pref 114%	116
	Chesapeake and Ohio	1734
	INC Pref 20	30
	Polestone Look and World Pref 20	33
	Delaware, Lack. and Western 81%	8a
	Delaware and Hudson Canal73 Express—Adams	7334
	American 58	105
ì		59
	" Wells, Fargo & Co 50%	5179
l.	Erie 36%	1031/
×	16 Pref	30-9
	Excelsior Mining	36 % 66 % a6 %
	Harlem	165
٠	Hannibal and St. Joseph 3136	33
,	Pref 5874	60
	Homestako	000

	-
fetropolitan Elevated	
lichigan Central	
lorns and Essex	
lobile and Ohio 271/	
lanhattan Railway	
ashville and Chattanooga	
ew York Elevated12814	
ew Jersey Central 7436	
orthwest gasa	
orthern Pacific 2714	
" Pref gg1/a	
hio and Mississippi 2634	
" Pref 56	
ntario Silver 3014	
anama	
uicksilver	
16 Prof 6436	
eading 601/	
ock Island and Pacific.	
Louis and San Francisco. 46%	
Paul	
" Pref 08	
andard	
abash	
abash and Pacific	
66 b pref 6236	
estern Union Telegraph10414	
	ntario Silver

GENERAL HARDWARE.

The market presents an appearance of increased activity this week, and it is a subject of surprise to many that the demand for general Hardware has not dwindled to small proportions with the advance of winter. The tone of the market, so far as values are concerned, continues strong, and we have to report further advances on some lines of goods.

For foreign Hardware there is a fair demand, and fine Cutlery and Plated Ware are

in active request for the holiday trade. The Atlantic States Nail Association held a meeting since our last issue, at which the basis for 10d. to 60d. was placed at \$3.70, with a rebate of 10 cents per keg on orders for 200 kegs and over. We quote, net ham & Haines agents), have placed on the figures, 10d. to 60d., \$3.60 @ \$3.75, accord- market an improved Self-measuring Faucet, ing to quantity. The demand is reported for light or heavy molasses, oils, varnishes, improving, and stocks in this city, although totals of this week compared with that of fairly assorted, are light, so much so that discount 25 per cent. to the trade. Of it for immediate shipment it would be difficult they say in a circular: "We warrant these to place a good-sized order.

We have received the following :

SOUTHINGTON, CONN., AND
43 CHAMBERS STREET, NEW YORK,
NOVEMBER 20, 1879.
To the Customers of the Peck, Stow & Wil-

Tucker.

patentees, we hereby agree that, if suits are brought against you by the owners of the Tucker patents for selling any goods known as Adamantine Bronze goods, and which were bought of us, we will defend said suits, and, so far as possible, save you from expense and trouble.

THE PECK, STOW & WILCOX COMPANY.

Russell & Erwin Mfg. Co. have advanced the price of Trunk Locks to discount 15 per cent., formerly discount 25 per cent.

The manufacturers of Cerdage, under date of 18th instant, issued the following revised price list, showing a further advance of 1/2 a

1	cent per pound on both Manilla and Sis
ı	Rope.
ĺ	Manilla Rope. Cents per
	134 inch cir. and upwards
1	12 thread, or % inch diameter
	6 and 9 thread, or 14 and 5-16 diameter
	Haw Popo a a core throad
	Hay Rope, 2, 3, 4 or 5 thread
	Bolt and Point Rope
	Tarred Rope and Lath Yarn
	Stave, Leather and Hop Twine
	Sisal Rope.
ı	13/4 inch cir. and upwards
	12 thread, or 36 inch diameter
	6 and 9 thread, or 1/4 and 5-16 diameter
ı	Hay Rope, s, 3, 4 or 5 thread
1	Tarred Rope and Lath Yarn
ĺ	Tarred Rope and Lata Tara
1	At a meeting of the undersigned She
	Manufacturors of the United States he

will hereafter be known as the regular American Shear List. No change in discounts. Signed:

R. HEINISCH' SONS, Herman Boker & Co., Sole Agents. HENRY SEYMOUR CUTLERY Co., Wiebusch & Hilger Hdw. Co., Sole Agents.

AMERICAN SHEAR CO... ELIZABETHPORT SHEAR WORKS, J. Wiss, JOS. MALLINSON, THE RENZ HARDWARE CO.. EMPIRE KNIFE Co.,

UNION SHEAR CO., THOS. HINCHLIFF, BENNETT & WETMORE Ladies' Scissors.

Inch 5	536	6	636	2
Per dozen. \$10.00	10,50	11.00	89.00	83.00
Ba	rbers' 8	Scissors.		
Inch 716 Per dozen\$15.00	8	856	9	936
Per dezen\$15.00	16,00	17.00	18.00	20,00
Be	ent Tri	mmers.		
Inch 856 9	10	10%	11 13	8.3
Pr. dz.\$20.00 22.00	87.00	28,50 30	0.00 33.00	36,00
Po	ocket 8	cissors.		
Inch		4	456	5
Per dozen		10,00	10.50	11.00
T	ailors'	Points.		
Inch		5	536	6
Per dozen		00.11	11.50	18,00
Stra	ight T	rimmers.		
Inch 6	656	7	736 8	816
Per dozen\$11.00	12,00	13.00 14	.00 15.00	
Inch 0				
er dozen\$18.00	84.00	87.00	30,00	33.00
Bankers' or Pap				
nch	. 9.9	2.0	2.0	2.4
Per dozen	\$27.00	32.00	36,00	49,00
Inch	. In	16	12	18
Per dozen	\$48.00	54.60	65,00	28,00
Bankers' or Pr				
Inch	agent ton	Control Terr	10	11
Fer dozen	. 2010.00	18.00	87.00	3.7 OO
Inch	3.9	2.2		1.0
Inch Per dozen	812.00	16.00	42.00	48.00
On left hand Tri				
regu	lar Tri	nmor lie	t.	ROOVE
TI Chambala 6				Y

On left hand Trimmers 335/5 advance above regular Trimmer list.

H. Chapin's Sons, Pine Meadow, Conn., have issued the following revised discount

H. Chapin's Sons, Pine Meadow, Conn., have issued the following revised discount

Associated the following revised discount results from th

sheet, under date of 10th inst., to apply to their new catalogue of 1879. The changes in prices, which are all advances over for the formal are on Bench Planes. Common 758, 8 Stair Rods. Nos. 5, 57 and 58. mer figures, are on Bench Planes, Common "Pearce" and Extra and Premium, Bench Planes with English Irons instead of Ameriean, Ship Planes, Hand Screws and Try Squares

Boxwood Rules.
Ivory Rules.
Miscellaneous Rules.
Bench Planes, Common "Pearce".
Extra and Premium
Apple, Box and Rosewood.
"Apple, Box and Rosewood.
"With English Irons instead of Dis. per cent.

American.
Ship Planes.
Cooper Planes.
Miscellaneous Planes.
Molding Planes.
Grooving Plows.
Gauges

Scholl's Paten Grooving Faundary Gauges
Scholl's Patent 50
Scholl's Patent 50
Marden's
Plumbs and Levels, Non Adjustable 6
Patent Adjustable 6
L. L. Davis Pat. Adjustable 6

Chisel Handles
File and Awl Handles
Plane Handles
Saw Handles
Door Stops
Rubber Tipped
Spoke Shaves, Mosher's Patent. Try Squares.... Sliding T Bevels. Screw Drivers... dincing Knives...

Terms, 30 days from date of shipment. Discount to per cont. for cash, if received within 10 days from date of invoice. Accounts unpaid at the expiration of 30 days, subject to draft payable at sight for the full amount of invoice.

Lane Brothers, Millbrook, N. Y. (Gra-&c., which we quote at \$3 each, subject to Faucets to be as represented, measuring correctly and working more easily in heavy molasses than any other Measuring Faucet in the market. No grocer can afford to be without them, for they save time, and 'Time To the Customers of the reck, Stole & WilDeficiency. 5,788,300 6,417,575 Inc. 620,275
Circulation. 22,475,700 22,550,400 Inc. 74,700
The foreign trade movements at the port
of New York since our last issue are shown fluid can pass, except when the crank is turned. They are the embodiment of sim-We are advised by counsel and experts that our Adamantine Bronze is no infringement of the Tucker patents. While, therefore, we intend to respect the rights of all patentees, we hereby agree that, if suits are

Russell & Erwin Mfg. Co. have issued, under date of the 20th instant, the following changes in lists and discounts, to apply to Volume 5 of their catalogue and discount sheet No. 2. In addition they print the revised Shoe Finders' list, adopted recently by the tack manufacturers, and with which the trade are familiar:

NOVEMBER 20, 1870.

Brackets, No. 1835, change list to \$4.05.

Brackets, No. 1835, change list to \$4.05.

Clark's Axie Pulleys.

Nos. 129 to 131.

Nos. 129 to 131.

Glass Curtain Pins.

Sash Weights, Regular, 2 to 30 lbs. @ sc.

Loumb Waiter Weights, @ 2½c.

Ogden's Axes, change lists.

Sizes. ... 3 to 4½ 3½ to 5½ 4½ to 6 5 to 6
Per doz. \$8 co. 8.00 8.00 8.50

Ogden's Handled Axes.

Hammers.

B. P. Machinists Hammers.

W. G. Smythe's Hammers.

G. G. B. Germond's

T. E. Smith's

Russell's

"Russell's

601, Heller's Horse Rasps. 617, Smith's Hammer Saw Sets. 618, Planes, Nos. 1 to 12. 618, 13 to 88 618, Planes, NOS, 110 88
619, Plow Planes, 114 60 130619 to 622, Miscellaneous Planes
622, Plane Irons
640, Measuring Tapes
641, Substitute Cook's for Miller's Dividers
Add 7 inch list, \$10 doz.
Nickel-plated, add \$3 doz. to list
644, Soldering Coppers
640, Spoke Shaves, Nos. 1, 2 and 3
640, Borax, 11 cents per lb
674, Brass and Copper Ollers
674, Brass and Copper Ollers
674, Brass and Copper Ollers

Sewing Machine Olilers 4
Swede's Iron Tinned Tacks 50 8 1
Common Iron Tinned Tacks 50 108 10
Uphoisterer's and Swede's Iron Tacks, all kinds (1400 and Lace Tacks 48 1
Swede's Iron Hungarian Nails 48 1 owede's Iron Hungarian Nails. Ugar Box and Chair Nails. Basket Nails.... American Iron Cut Tacks. Copper Tacks and Nails. /8, Howards above.
/8, Shoe Finders' list.
/8, Shoe Finders' list.
/9, Lining Nails, Silvered
/9, Lining Nails, Silvered
/9, " Japanned
/9, " Brisss, 4 to 16 oz., 8 cents.

25 to 12 shore
14 to 24

690. French Wire Nails
696. Chace's Hard Metal Gates
696. Straight 55&1

696. Tea Scales Nos, 200 and 200 should read
capacity 4 bs.
704. Scale Beams
705. Enameled Kettles
700. Straight 15&

710. S 720, Tinned Glue Pots....

Le Roy, Shattuck & Head, Utica, N. Y., have issued a descriptive and illustrated catalogue of Malleable and Gray Iron Hardware manufactured by them. Among the goods shown we notice a large assortment of Wagon Makers' Hardware, Garden Rakes, Kettle Ears, Clevises, Plow and Cultivator Hooks, Cultivators, Thimble Skeins and Boxes, Patent Wagon Couplings, Street Lamp Posts, the new Carton Dome Furnace, the Champion Coal Stove for Hop Drying, &c. The book contains 68 pages, is handsomely printed, and is furnished with a comprobensive index.

The Ohio Butt Company have issued the following discount sheet:

JOLIET, ILL., November 22, 1879. On and after this date our discounts on Casters will be as follows, subject to change without notice, f. o. b. here:

Bed Casters-Bronzed. Iron Wheel... Porcelain Wheel... Lignum Vitæ Wheel. Brass Wheel... Ten per cent. discount additional if paid in 30 days. Plate Casters-Iron Bronzed. Iron Plate and Horn, Iron Wheel ...

Brass " Ten per cent, discount additional if paid in 30 Caster Rings Miller's Patent, all Iron, 3-inch Wheel...

Miller's Patent Casters.
Iron Plate, Iron Horn, Iron Weeel Nickel " Nickel " Nickel Ten per cent. additional discount if paid in days. If not paid in 30 days the additional discou will in no case be allowed.

All goods sold at prices ruling on day of shipment. We require remittances to be made in New York or Chicago exchange, or by P. O. Order or express prepaid. We pay no exchange or express charges. Very re-spectfully, Ohio BUTT Co. spectfully,

IRON.

American Pig.-Although the market is still dull, there has been a larger movement in Pig Metal this week than for some time past. In a jobbing way, a fair business is reported on the basis of \$27 for No. 1 Foundry. We also hear of sales of 6000 tons Thomas, for next year's delivery, on private terms. We quote: Foundry No. 1, \$27; Foundry No. 2, \$26; Gray Forge, \$25 @ \$26

Scotch Pig. - Sales are reported of 2000 tons Glengarnock at \$24, said to be speculative lots forced on the market; also 1000 tons Eglinton on private terms. We quote as before: Eglinton, \$24 @ \$25; Coltness, \$27; Glengarnock, \$25; and Gartsherrie,

Rails.-We hear rumors of additional large sales of Steel Rails for 1880 delivery, but are unable to obtain particulars. No new business in Iron Rails has come to our notice. We quote Steel, \$63 @ \$66, and Iron Rails, \$50 @ \$53.

Old Rails .- Sales are reported of about 7000 tons Ts and Double Heads at \$31.50 and \$32.50, respectively, and in addition about 13,000 tons on private terms. We quote \$31 @ \$32 here. Scrap. - Scrap Iron is in fair supply here

favor than has been the case of late. We quote No. 1 Wrought, \$30 @ \$33. We have received the following circular THE TRENTON IRON COMPANY.

and afloat, and prices are more in buyers

Manufacturers of Iron and Steel Wire, Wire Rods, Brazier Rods, Bar Iron. office, Cooper, Hewitt & Co., 17 Burling

TRENTON, N. J., Nov. 24, 1870. DEAR SIR: It is my painful duty to an-nounce that Mr. Charles Hewitt, late president of this company, deceased on the 2d instant. The directors have made the following appointments: Abram S. Hewitt, president; William Hewitt (son of the late president), vice-president; Eagleton Hanon, secretary.

The new officers will endeavor to merit

the confidence heretofore reposed in the company, and, with greatly enlarged facili-ties and improved processes introduced by the late president, our customers may rely upon the prompt and satisfactory execution of any orders with which we may be favored. Respectfully yours,

JAMES HALL, Treasurer.

METALS

Copper.—The market since our last re-port has been quiet and firm, sales being restricted to 200,000 to 300,000 pounds Lake of larger dealings, the truth of which we have been unable to trace. For future de-livery 2215¢ is asked. We call Baltimore aper.

have been unable to trace. For future delivery 22 ½ ¢ is asked. We call Baltimore nominally 21 ½ ¢. The shipments of Copper from England to the United States during October aggregate some 220 tous. The London market has been on the rise again lat terly, thus Chili Bars were wired £66, to on Saturday, and £67, to/yesterday, while Best Selected is cabled £73, to/. A telegram has been received from Valparaiso, dated Nov. 22, and subsequently confirmed by another dispatch, announcing a great Chilean victory over the allies at Iquique, where the bulk of the land forces have met. Simultaneously the Chilean aquadron captured.

£57. The lowest was on August 1, when they stood at £53. 10/. "London, Novem-ber 8.—The Chili charters for the last fortnight of October are telegraphed at 2600 tons, and the price quoted in Valparaiso is £62 \$\mathbb{P}\$ ton, cost and freight to Liverpool. The statistical position of Chili produce appears to be one of the weakest points of the market, the charters for 1879 up to this date being no less than 44,300 tons, and for the corresponding period of 1878, 39,700 tons; 1877, 36,700 tons; 1876, 40,400 tons; 1875, 38,800 tons; 1874, 40,160 tons; 1873, 35,300 tons—showing an excess for 1879 of 4600 tons compared with 1878, and 9000 tons compared with 1873." We quote New Sheathing Copper, 28¢; Braziers, 30¢; Bolts, 30¢, and Bottoms, 33¢.

Tin.-Our market continues to rule quiet Tin.—Our market continues to rule quiet, and no important transactions have transpired since our last report. We quote large lines of Straits, Australian and Billiton, 21½ @ 22¢; English Refined, 21¢ @ 21½¢; do. Common, 20¾¢ @ 21¢, and Banca 24¢. The foreign markets are without change. London quotes Straits £92 to £92. 10/, and Singapore \$26.50 per picul. The Dutch Singapore \$26.50 per picul. The Dutch Trading Company will sell at auction on the 27th instant 23,500 slabs Banca. Arrivals at New York during the week under review have been 10,000 slabs Straits. The visible supply in England and Holland November 1, according to Messrs. French & Smith's London statistics, was 16,234 tons, against 17,154 in 1878, and 15,405 in 1877; the price of Straits was £95, against £60 and £69, 10/. Tin plates are unaltered; quiet, but firm. The consumptive demand has been strong enough to keep things moving, and there is no pressure to sell. The following telegram is published by the Associated Press: "The tin-plate workers of South Staffordshire and East Worcestershire gave notice on Saturday last of a demand of from 5 % to 10 % advance in their wages. As the manufacturers have full orders, both for home and American consumption, a moderate advance will probably be conceded." Workmen in Wales are working only four days in the week, and, therefore, their earnings are low still. don statistics, was 16,234 tons, against 17. Wales are working only four days in the week, and, therefore, their earnings are low still. The works will probably, when the present arrangement ceases, on January 1 next, start off full. It is, however, by no means expected that prices will be influenced much thereby, for it is sufficiently proven that the consumptive demand has of late increased in a striking manner. We quote at the close, large lots, ordinary brands, per box: Charcoal Bright, \$8; ditto, Ternes, \$6.87½ (@ \$7; Coke Tin, \$7 (@ \$7.25, and ditto Ternes, \$6.25. ernes, \$6.25.

Lead.—A moderate business has been

Lead.—A moderate business has been transacted during the week, sales amounting to 200 tons Common at 5½¢ @ 5½¢, and 100 tons Refined at at 5.85¢; for the latter 5½¢ is now asked. At St. Louis Common is worth 5½¢, and Refined 5½¢. Messrs. French & Smith, London, under date of November 6, say: "Lead, like all other metals, has advanced during October, the quotation to-day being £17 @ £17. 5/ for English, and £16. 17/@ £17 for Spanish. This is an improvement of £2 per ton in a few weeks. But for the extreme quietude of the home demand lately, we should, no few weeks. But for the extreme quietude of the home demand lately, we should, no doubt, have seen a larger advance. Not-withstanding the rise now established, consumers should keep in mind that the present quotation is lower than at any time since 1852, until about 18 months back." The exports of Pig Lead from London and Liverpool to the East during the first 10 months of 1877, 1878 and 1879 were as follows:

To			Tons.	Tons.	Tons.
Madras	. ,	. ,	. 19	219	260
Calcutta				538	464
Bombay		. ,	163	178	646
China	. ,		11,981	8,885	4.760
Japan		٠,	1,625	854	351
Singapore and Penang .		. ,	500	96	151
			-	N. AC. AND DESCRIPTION	*
Total			14,432	10,770	6,632

We quote at New York: Bar, $6\frac{1}{2}$; Pipe, $7\frac{1}{2}$; Sheet Lead, 8¢; Tin Lined Pipe, 15¢, all less 10 % to the trade. No. 1 Solder, 13¢

Spelter and Zinc.-There is nothing doing; the market for Common Domestic is strong, it is worth 6 1/6 \$\phi\$ \$\phi the selling limit at New York has been raised 1/4. "London, November 8.—There market. Sellers continue to quote at last week's figures, and a moderate demand exists for Silesian, but there are compara-tively very few inquiries for English Hard."

Sheet Zinc-Commands 81/8¢ @ 83/8¢, with 8¢ for round lots, cash.

Nickel-Remains upaltered at \$1.40 for

Antimony.—Some larger sales of "Cookson's" brand have been made, and the same is scarce at 18¢. "Johnson's" is quoted

COAL.

During the week the trade has exhibited few features of interest. The companies and individual operators have generally found themselves busy, with orders enough on hand to keep them employed for some little time to come. Indeed, it is rumored that there are orders enough on the books of some of come companies to bear them.

Pilcomayo, leaving the Peruvians but one war vessel of note, the Union. It was expected that Chili will now land an army at Callao and attack the Peruvian capital, Lima, defended by 9000 regular soldiers and 25,000 undisciplined recruits. Should Lima fall, Chili will dictate peace, and thus terminate a war which has inflicted great injury on many American and European interests. Copper production

Of Hardware, Iron, Steel and Metals into

Old type, bxs., 6 Netherland Trading ciety, Tin, slabs, 302 vada Bank

Plock & Co. Copper, bbls., 29 Pratt C. & Co. Tin plates, bxs., 630 Willett & Hamlen Yel. metal, cs., 85 Windmuller L. & Rolker

der, Copper, csks., 18 Copper ingots, 3242 Lead, pigs, 504 Spelter, ingots, 2503 Spelter, plates, 16,391 Tin plates, bxs.,

21,675 Tin, ingots, 1920 Tin, slaps, 3533

Zinc, cs., 105

3,	Nov. 24, 1879 :	
f	Hardware.	Weddigen, L. & Co.
0	Allen Hugh,	Rails, 1076
	Grindstones, 146	Windmuller L. & Roel-
0	Armstrong M. & Sons,	ker
9	Pin nails, bags, 165	Sheet i'on, pkgs., 235
	Bazza Angelo,	Order,
	Sew. ma., cs., 1	Bars, 16,200
19	Iron bed, 1	Bundles, 40
je.	Berbecker, Julius & Co.,	Heavy scrap, tons,
	Hdw., csks., so	527
0	Boker Hermann & Co.	Hoop iron, bdls.,
¢	Hdw., cs., 11	4710
	Hdw., csks, 25	Old rails, 1495
	Carey Samuel,	Old rails, kilos.,
Θ	Grindstones, 82	914.973
-	Charles R. P.	Old rails, pes., 86x6
i	Grindstones, 601	Old rails, pcs., 2061
3	Folsom H. & D.	Old rails, fons, 733
- 1	Mdse., pkgs., 5	Old railway axles,
В	Graef Cutlery Co.	424
i i	Mdse., pkgs., 3	Ore, tons, 735
,	Herrmann H. & Co.	Ore, tons, 735 Pig. tons, 2650
	Mdse., pkgs., 33	Railroad iron, bars,
3	Livingstone W. & F.	6434
,	Grindstones, caks, 15	Rod fron, bdls., 440
	Merchants Dispatch Co.	Scrap, tons, 1666
П	Gun caps, cs., s	Sheets, 403
١.	Wads, cs., 3	Sheet iron, bdls.,
)	Meriden Brittania Ware	1940
-	Co.	Spiegeleisen, tons,
-1	Mdse., pkgs., 3	125
П	Noyes, Smith & Co.	
П	Gun caps, cs., 2	Metals.
8	Pursell Jas.	310011111
	Machines, cs., 3	Bank of Montreal,
П	Rogers Henry,	Tin plates, bxs., 1174
1	Mdse., pkgs., 3	Baring Bros. & Co.
ч	Schoverling, Daly &	Tin, slabs, 1173
٠I	Gales	Barthold R. R.
П	Gun caps, cs., 2	Old copper, bxs., 36
1	Wads, cs., 3	Cylinder copper, 1
1	Mdse., pkgs., 5	Bruce & Cook
	Schuyler, Hartley &	Bruce & Cook, Tin plates, bxs., 300
. 1	Graham,	Byrne Jos. & Co.
		Tin plates, bxs., 200
1	Mdse., pkgs., 4 Seligman J. & W. & Co.	Drexel Morgan & Co.
1	Wire, pkgs., 1437	Tin plts., bxs., 1155
	Singer Mfg. Co.	Kirkland R. M.
1	Mdse., pkgs., r	Old type, bxs., 6
1	Thompson John	Netherland Trading So-

	WIGHTON TAXABLES ALL ON C.
1	Co.
1	Mdse., pkgs., 3
ı	Noves, Smith & Co.
1	Gun caps, cs., 2
ı	Pursell Jas.
1	Machines, cs., 3
1	Rogers Henry,
1	Mdse., pkgs., 3
1	Mdse., pkgs., 3 Schoverling, Daly &
1	Gales
1	Gun caps, cs., 2
I	Wads, cs., 3
I	Mdse., pkgs., 5
١	Schuyler, Hartley &
١	Graham,
١	Mdse., pkgs., 4 Seligman J. & W. & Co.
١	Seligman J. & W. & Co.
١	Wire, pkgs., 1437
I	Singer Mfg. Co.
1	Mdse., pkgs., r
١	Thompson John
Ì	Hdw., cs., 8
1	Tillotson L. G. & Co.
I	Gal. wire, lots, 392
ı	Wetzlar M.
ı	Mdse., pkgs., r
ı	Wiebusch & Hilger Hdw.
ĺ	Co.
ı	Cutlery and hdw.,
П	nkes. 11

	Wilson, D. H. & Co.
í	Gun caps, cs., 4
	Gun caps, cs., 4 Wilson Sewing Machine
	Co.
	Mdse., pkgs., 3
	Witte John G. & Bro.
	Pocket knives, cs., 3
ı	Wolff, H. & Co.
1	Mdse., pkgs., 6
1	Order,
I	Bolts and nuts, cs, 12
I	Hdw., bdls., 283
I	Machinery, cs., 25
I	
I	Iron.
I	Baring Bros. & Co.

Bundles, 995
Bars, 3381
Drexel, Morgan & Co.
Hoops, bdls., 2007
Hopkins E T.
Bars, 802
Bundles, 20
Mayer Bros. & Co.
Pig, tons, 250
Naylor & Co.
Old rails, pcs., 583
Perkins, Livingston Pos
& Co.
Delamatalann town

Prosser Thos. & Sons, Forgings, pkgs., 115 Wolff R. H. & Co. Bundles, 52 Order,
Bundles, 260
Cases, 3
Casks, 7
Old spring steel,
quantity quantity Packages, 369 Scrap steel, to

OLD METALS, PAPER STOCK, &c.

There is nothing new to note in Old letals, Rags, Paper Stock and other junk materials since our last writing. Prices remain unchanged, although the demand is not very active.

for Old Metals are as follows : Ollows:

per B, \$0.13 (B) .14
.12½ (B) .08½
.10 .08 (B) .09½
.11 .09 (B) .09½
.11 (B) .12
.12 (B) .13
.13 (B) .14 Copper, heavy.... Copper Bottoms... Yellow Metal.... Pewter, No. 1.
Pewter, No. 2.
Wrought Iron.
Light do.
Stove Plate
Machinery do. pr. cwt

The prices current for Rags, &c., are as

Canvas, Linen	per B. 3%C. @
White Cotton, New	" 4½C. @
" No. 2	** #%c. @
White, No. 1	" 4%C. @ C.
No, s	" 3 C. 6 C
Seconds	1 D. 1340. 6
Mixed, Woolen	1. 2 C. 63 3 C.
Soft, do	" 14 C. O. C.
Mixed Rags	" 8 C. @ 3 C.
Gunny sagging	" 3 C, @
Jute butts	" 23/4C @
Kentucky bagging	" s%c. 62
Book Stock	" 21/4 c. @ 21/4 c.
Newspapers	" 1%c. @ 1%c.
Waste Paper and Scrape	" 3/4 C. CA
Kentucky Bale Rope	4 C. C
Tarred Shaking	" i c. @ 1%c
Grass Rope	21/4 C. @

PHILADELPHIA.

Office of The Iron Age, 220 South Fourth St. | PHILADELPHIA, November 24, 1879

Pig Iron.-The market is quiet, and little time to come. Indeed, it is rumored that there are orders enough on the books of some of our companies to keep them busy for some little time next month. Some of the companies are talking of an advance for next month, while others seem to be satis
THE Tron.—The market is quiet, and ignore, spector to arrive. Holders appear to be firmer in their views, and at \$32 there to be firmer in their views, and at \$32 there very few offered, higher prices being dry Irons are in large supply and not much wanted, holders asking all the way from \$25 to the arrive. Holders appear to be firmer in their views, and at \$32 there very few offered, higher prices being dry Irons are in large supply and not much wanted, holders asking all the way from \$25 to the firmer in their views, and at \$32 there very few offered, higher prices being dry Irons are in large supply and not much wanted, holders asking all the way from \$25 to the firmer in their views, and at \$32 there very few offered, higher prices being dry Irons are in large supply and not much wanted, holders asking all the way from \$25 to the firmer in their views, and at \$32 there very few offered, higher prices being dry Irons are in large supply and not much wanted, holders asking all the way from \$25 to the firmer in their views, and at \$32 there very few offered, higher prices being dry Irons are unitary.

Steel.—The Steel mills continue to have and at \$32 there very few offered, higher prices are the being the former in their views, and at \$32 there are very few offered, higher prices are the being the former in their views, and at \$32 there are very few offered, higher prices are very few offered, higher prices are the specific and the very dry than the reason of the former in their views, and at \$32 there are very few offered, higher prices are ver

ccording to brand and need of seller. Mill Irons are scarce and command full prices, with no indication of lower rates in the immediate future. Sales have been made of all offered at from \$25.50 for White to \$28. for Gray Forge; some brands held at still higher figures. Large sales of Bessemer Iron have been effected within the past few days at higher prices then hitherto surface. peace, and thus terminate a war which has inflicted great injury on many American and European interests. Copper production will, in all likelihood, be taken in hand more vigorously than ever by the Chileans during the era of prosperity that will be dawning upon the model republic. The visible supply of Copper in England and France on November I was 49,955 tons, against 47,567 in 1878, and the price of Chili Bars £66, against £57. The lowest was on August I, when £57. The lowest was on August I, when they stood at £52, 10/. "London, November I was ago at the shipping points. In the matter of sizes, store days at thigher prices than hitherto quoted, and for this description the demand is very and for this description the demand is very auditions, with no noticeable change. Lehigh Lump, \$4; Broken and Egg, about \$3; Stove, say \$3.75; Chestnut, \$3.50. The Lackawanna prices are about 40 cents below the Lehigh. But just before Thanksgiving it is to be expected that things will be somewhat unsettled and but little comparatively going on. will nave to only to meet legitimate requirements to be expected that things will be somewhat unsettled and but little comparatively going on.

Freights are unchanged. Boston is still quoted at \$1.60, New Haven, 90¢, and Harbor freights at 35¢.

will nave to only to meet legitimate requirements, and the accumulation of stock is not sufficient to cause any uneasiness in regard to the future. Foreign Iron has had a good deal to do with unsettling values, but if prices are maintained in England our manufacturers have not much to fear, as the preference for American Iron cause. facturers have not much to fear, as the preference for American Iron amounts to several dollars per ton, except for brands of established character. Sales of Mottled Iron are reported at \$26.50; Gray Forge, \$27.50 (2) \$28; No. 1, \$26.50 (3) A fair average quotation of the latter would be \$28 (2) \$20.50. Sales are perfectly at \$25.50 (3) \$28.50 (3) A fair average quotation of the latter would be \$28 (2) \$20.50. Sales are perfectly at \$25.50 (3) \$25 have been made at extreme figures both ways. Scotch Iron is steady and not pressed for sale.

Blooms. - Stocks are completely hausted, and buyers have much difficulty in placing their orders. Prices have advanced, placing their orders. Prices have advanced, and the following are about the usual selling prices: Sunken Sorap Blooms (2464 lb), \$55 @ \$57; Northern Ore Blooms (2240 lb), \$52 @ \$54; best quality Charcoal Billets (2240 lb), for wire and steel purposes, \$80 @ \$85; Bars, \$25 @ \$87.50; Sheet Iron Blooms, cornered (2464 lb), \$75 @ \$80; Cold-blast Charcoal Plate Blooms, \$75 @ \$77.50; runout Anthracite, \$67.50 @ \$70.

Muck Bars.—The market is firm, and sales during the week have been at \$48 at 424 Ore, tons, 735 Pig, tons, 2650 Railroad iron, bars, mill. Holders ask \$48 @ \$50, and are not disposed to sell largely, unless at full rates.

Structural Iron,-The maket is steady and unchanged. Business continues good, and the sales from week to week keep manufacturers actively employed. Prospects are good in every direction and prices are steadily maintained. For specially desirable orders slight concessions could be obtained, but for small lots the following are current rates, viz.: Angles, 3.6\$\phi @ 3.7\$\phi\$; Beams, 4\$\psi\$; Channels and Tees, 4.2\$\phi\$.

Plate and Tank Iron.—There is no change in the general condition of the mar-ket; the demand is almost as urgent as ever, and prices are steadily maintained. Manufacturers report numerous inquiries from large consumers during the past few days, from which it is inferred that heavy orders will be in the market at an early date. Prices are unchanged, as follows, viz.; Tank, 4¢; C. No. 1, 4¼¢; C. H. No. 1 Shell, 4.5¢; Flange, 5.5¢; Solid Fire-box, 6.5¢; Best Bloom, 7¢.

Nevada Bank
Tin plates, bxs., 1872
Phelps, Dodge & Co.
Tin., ingots, 196
Tin, bdis., 195
Tin plates, bxs., 8101
Plock & Co. In a small jobbing way the following are current quotations: Common Sheet, No. 25 to 23, 5.4\$ (@ 5.6\$; No. 24 to 28, 5.7\$; Best Refined Sheet, No. 25 to 28, 5.7\$ (@ 6\$; No. 16 to 24, 5.7\$ (@ 5.8\$; No. 25 to 28, 5.8\$ (@ 5.9\$; Refined Plates or Blue Annealed, 5-16 to 16, 4.4\$; 17 to 19, 4.5\$; Best Bloom, 26 to 28, 7.5\$; 16 to 24, 7\$ (@ 7.1\$; Best Bloom, 7.3\$. A Patent Planished, 11\$; B Patent Planished, 10\$; Best Blooms, Galvanized, 10\$ (discount, second quality, 20\$. econd quality, 20 %.

Bar Iron.—There is a fair business doing, and the mills are all well supplied with orders. As may be expected at this season, however, there is a disposition to limit business the season of the seas ness to current requirements, leaving the incoming year to wait further developments. Prospects continue favorable, and an unusually large demand is anticipated with the opening of the new year. Prices are considered safe, and it is seldom that anyone expresses an expectation of lower rates, and we are informed on good authority that important orders could be entered at curimportant orders could be entered at current rates if sellers were so disposed. Skelp Iron is again inquired for in large quantities, so that manufacturers feel confident of having all they can do at fair prices. Bars are quoted 3¢ @ 3.2¢; market firm. Skelp nominal at 3.5¢.

Steel Rails.—There is no change in quotations, but it is increasingly difficult to sales have been made, but none of the mills appear disposed to go much further, so that prices may be regarded as purely

Steel Blooms .- Prices are much higher, and \$52 @ \$53 is said to be the basis of sale of a 10,000-ton lot now pending.

Iron Rails.-The market is steady, and sales of small lots are reported at full prices. The firmness in the English market has imparted new strength on this side, but for very desirable orders it is quite likely that slight concessions would be made. Most of the mills are full for some time to come, but changed at 25 %; on Boiler Tubes, 10 %; but Casing, 85¢, net; do. Tubing, 28¢, net. a few choice orders could no doubt be worked in as above stated. Heavy sections may be quoted \$51 @ \$53 at mill, according to location; market steady.

Serap.—There is possibly a slight falling off in the demand, but prices are steady, with light stocks. We continue former quotations: No. I Wrought Scrap, \$40 @

made at \$31.50, with buyers offering that figure, spot or to arrive. Holders appear to Steel.—The Steel

PITTSBURGH

Office of The Iron Age, 77 Fourth Avenue, Pritisburgh, PA., Nov. 24, 1879. There has been nothing particularly new

or important developed in business circles the past week. While there is a lull just now, as there always is at this time, trade is much better than it has been in November for several years. It is generally expected for several years. It is generally expected that business will brighten up again in Janu-ary, and there is every indication of a very active spring trade. Advices from all quarters report that active preparations are making for railway construction next spring and summer, and for some articles, such as rails and railway supplies, contracts are now being made for delivery next year; indeed, so far as our manufacturing interests are concerned, the situation, present as well as prospective, is most encouraging, and about the only apprehension is in regard to labor troubles. That there will be a heavy de-mand for all kinds of manufactured goods as soon as the spring business opens up, is quite certain. Stocks, both in hands of manufacturers and jobbers, are very much Pig Iron.-The market remains much

Neutral, and the Red-short is wanted for mixture. They did not buy any more of the latter than they could help, owing to its being so much dearer than the former; but there was nothing made in holding off, as, being in light supply, it continues to command very full prices, and may go still higher, holders realizing the situation and being indifferent about selling. Until within the past few weeks, while there was an active demand for Pig Iron for immediate delivery, buyers were not inclined to contract for next year, fearing that prices might possibuyers were not inclined to contract for next year, fearing that prices might possibly decline. For some weeks past, however, the situation in this respect has been greatly changed. Some of the commission men now assert that it is easier to sell for next year than for immediate delivery, which indicates that consumers have confidence in current prices being maintained. Of Bituminous Coal Smelted Irons there were sales of some 5300 tons reported at from \$31 @ \$33, 4 mos., for mill, the outside figure for Red; 800 tons Bessemer sold for mill use at \$35, 4 mos. Coke Irons from native ores—Sales of mill at \$30, 4 mos., to \$30, cash, and Foundry at \$31 @ \$32. Antracite—Sales of some 3000 tons at \$27.50, cash, for Cold-short; \$30, cash, to \$31, 4

for future delivery. Prices are steady. Well-assorted orders, 3¢, 60 days, for Merchant Bars; Sheet Iron, 4.50¢; Skelp Iron, 3.50¢ @ 3.60¢, and mills generally full of orders; some of them sold up for several months. Plate Iron, 3.80¢ @ 4¢: Hoop Iron firm at 3.90¢ @ 4¢.

Nails.-The movement continues light, as it always is this month, and it is not ex-pected that there will be any improvement until about the middle of January, when it until about the middle of January, when it is probable orders for the spring trade will commence to come forward. Prices are steady at \$3.65, 60 days, 2 % off for cash, and the usual discount of 10¢ % keg on lots of 200 kegs and upward. As stated in our last report, there is every indication of a large spring trade.

Horse and Mule Shoes.—There is a moderate inquiry for the season, but no change in prices, which are quoted at \$4 and \$5 \$\text{R}\$ keg, respectively, for lots of 100

Cinder.—There is considerable inquiry and prices are firm. The last sale reported was at \$3,25, cash. Muck Bar.-We have heard of no recent

place orders. The mills are full for the sales, but may be quoted steady at \$50 @ early months of 1880, and it is difficult to \$52 \$\text{#}\$ ton for that of a good quality. There get manufacturers to name any figure at is not much on the market, as the most of which they will take an order. As a rule, \$62 @ \$65 are about the rates at which can make.

Rails.-No recent sales here of Steel Rails, but the market may be quoted steady at \$65, cash, at mill, for delivery next year. Old Iron Rails are still quoted at \$36 @ \$38, gross. One of our largest consumers, it is understood, has recently made some large purchases of foreign Rails in the East.

Wrought Iron Pipe .- The demand has fallen off somewhat recently, but the mills are still sold ahead and prices are steady, The discount on Gas and Steam Pipe is un-

Old Rails.—The market has been irregular during the week, with sales reported at \$3.5.0 (a) \$31.50. The feeling during the past three or four days has been stronger, and sales to a moderate extent have been Wrought Turnings, \$25 (a) \$26, net; Boiler

Steel .- The Steel mills continue to have

Window Glass.—There is a continued brisk demand, and, with very light stocks, prices are firm, with a further upward tendency. We continue to quote discounts at 60 and 5 %, and small orders preferred by manufacturers to large ones. There has not manufacturers to large ones. There has not been such an inquiry at this time for a number of years.

Coke-Continues firm, with light stocks and considerable inquiry, and prices are still tending upward. Quoted at \$1.50 @ \$1.60 \$\mathre{B}\$ ton, delivered free on cars at ovens.

Coal.—The effect of the recent large shipments by river, some 8,000,000 bushels, has been to lower prices very considerably at Cincinnati and Louisville. There are at Cincinnati and Louisville. There are still some 10,000,000 bushels loaded here, and ready to go forward on the first freshet.

Petroleum.-The market continues firm, and considerably excited, owing mainly to speculation. Certificates have ranged from \$1.20 @ \$1.25 the past week, and shipment five cents per barrel additional.

BOSTON.

is ame as noted in ou.

no falling off in the demand,
nor falling off in the demand,
ary, it appears to be increasing,
withstanding the weakening character
the advices from the East, prices are well
maintained. The reported sales for several
weeks past have varied from 10,000 to 15,000
tons per week; but as every available puddling furnace is in operation, the consumption is estimated at 12,000 tons per week,
and as furnacemen generally are sold ahead,
the offerings of Western iron are not likely
to be very large for some time to come.
There has been an increased demand for
Red-short Iron recently, as it was expected
there would be, in view of the fact that conwere wellstocked with Cold-short and
the Red-short is wanted for mixat buy any more of the lawing to its being so
or; but there
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large for the demand,
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the advices from the East, prices are well
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this week at \$25. But there,
less, a considerable, feeling of common and a higher range. Seotch Pig continues to
come forward freely, considerably faster, in
fact, than it is wanted. The receipts this
week have been nearly 3000 tons, and the
market rules dull. We quote: Eglinton at
\$27 @ \$23; Gartsherrie, \$28 @ \$20, and
Coltness, \$29 @ \$30. Old Rails.—Receipts
of 700 tons English rails sold at \$31.50 \(\theta\) ton.
American rails could not probably
find buyers at anything above \$33.50 @ \$34.
But holders are still firm at \$30. Manufactured Iron is without material change.

In the present demand is
has continued to gai
has been no further change in Nails
int, and the present demand is
has continued to gai
has continued to gai November 22.-In the absence of demand Sheet Iron.—The season is drawing to a close, and although the demand is not so active as it was some time ago, there is a disposition to place orders in case concessions can be obtained. Parties who bought heavily early in the season appear to be out of stock again, and are making inquiries, and will, no doubt, place orders as soon as they can do so to advantage. Thin sheets are especially in demand, and command full prices for early delivery. In a small jobbing way the following are current quotations: Common in a second content of the continue busy, and, as the rule, are refusing to make contracts for future delivery. Prices are steady.

In a small jobbing way the following are current quotations: Common in the continue delivery. Prices are steady.

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In a small jobbing way the following the continue d

CINCINNATI.

Messrs. E. L. Harper & Co., under date of Nov. 24, write as follows: The demand has been fairly active during the week, buyers being still inclined to limit purchases to early wants. A stronger undercurrent is manifest, however, in expectation that the large demand which is confidently expected next year, in view of the light stocks of native Iron. will prevent any weakening. native Iron, will prevent any weakening. Foreign Irons are advancing, as also are both ocean freights and rail freights from the seaboard. American consumers have found to their cost that much of the imported Iron is hardly cheap at any price, and such as is of satisfactory quality is now quotable at figures which leave little or no margin for importation. We continue our quotations unchanged, although some sellers The feeling apparent Railway Spikes.—Prices have been advanced $4 \notin \mathbb{R}$ b, and we hear of some large contracts having been made at the advance. We now quote at $3 \frac{1}{2} \notin \mathbb{R}$ b, 30 days.

are shading them. The reging apparent generally, on the part of the furnaces, is to let such special lots be closed out without seeking to compete with them and refuse orders at anything below present rates. are shading them.

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HOT-BLAST FOUNDBY.
Hanging Rock C. C., No. 1 \$38.00 @ 42.0 C. C., No. 2 36.00 @ 38.0
C. C. No. 2 26.00 @ 28.0
Southern C. C
" No. 2 36.00 @ 37.0
Strong Neutral Coke
Fannie, American Scotch 37.00 @ 28.0
Hocking Valley S. C 37.00 @ 38.0
Hanging Rock, S. C
NO. 2 33.00 (2) 34.0
Open Silver Gray 32.00 @ 34.00
FORGE IRONS.
Hanging Rock, C. C. Grav Forge @ 18.00
Coke. 11 25.00 @ 26.00
Hanging Rock, C. C, Gray Forge
CAR WHEEL AND MALLEABLE.
Hanging Rock 47.00 @ 50.00
Southern 43.00 (3 47 00
Lake Superior 48.00 @ 43 00
Salisbury 50.00 @ 55.00
TO A F DESCRIPTION OF

BALTIMORE.

W. N. WYETH, Iron and Steel Merchant, 46 and 48 South Charles street, Baltimore, report us the following under date of November 24: Trade has ruled somewhat less active for the past week, with increasing stocks and fair demand for same at this season of the year.

tef. Bar Iron, 1 to 6 by 1/4 to 2	B 356 @ 3/60	
" to All hy all to a	50 th all 60 2366	
" 14 to 2, Round	B = 214 = 210	
and Courses 74 to 2, Bound	61 -21 @ -260	
and Square	374 (8) 370	
loop Iron, 11/2 wide and upward	" 3% @4 6	
land Iron, from 11/4 to 4 in. wide	" 3% @ 3%	
lorse-shoe Iron	" 31/4 @ 31/49	
orway Nail Rods	" 5 @ 5/66	
lack Diamond Cast Steel	44 1256 @ 13 F	
lachinery Steel	" 7 6 8 6	
ast Spring Steel	" 6 666	
omogeneous Steel Plate	44 656 @ 7 8	
ommon Horse Nails	41 to @ 14 F	
. R. Spikes, 516 x0-16	3564 @ 3549	
erking Horse shoes. W keg of 100	lhs84.12%	
" Mule shoes	5.18%	

atnam Horse Nails...... 10 9 8 7 6 lobe Horse Nails...... 10 10 20 21 22 23 25¢ Less list discount to the trade.

R. C. HOFFMAN & Co., Iron and Commis sion Merchants, report the Pig Iron mar-ket as follows under date of Nov. 24: The demand for Iron continues fair, without any material change in prices since last report.

Baltimore	Char	coa	IV	7h	06	ı	Ir	o	n.			\$38.00	0	40.00
Virginia	4	6				6	ı					 39.00	0	42.00
Anthracite	No.	I										 29.00	@	30.00
66												28.00		
8.6	No.	3								0 1	 0	 87.00	0	29.00
8.0	Mot	fled	aı	nd	W	Th	it	Θ				 85.00	0	26.00
Charcoal,	C. B.	Blo	on	as								 75.00	0	80.00
8.6	66											80.00		
Refined Bl	ooms							0 0				 60.00	@	65.00

ST. LOUIS. St. Louis, Mo., Nov. 22, 1879.

Continue quotations of last week. Con-Continue quotations of last week. Condition of market is about the same. The late break in prices, coupled with the fact that the year is drawing to its end, makes buyers unwilling to buy excepting for their

immediate wants. In face of all the discouraging opinions the best informed consumers believe in a strong and advancing market after January.

CHARCOAL HOT BLAST.		
Missouri Southern Hanging Rock	34.00 @	
CORE AND COAL.		
Missouri. Southern, No. 1. Ohio River, No. 1. Jackson County, No. 1. Hocking Valley, No. 1. No 2, \$1 to \$2 per ton less.	None off 32.00 @ 32.00 @ 32.00 @ 32.00 @	33.00
COLD BLAST.		
MissouriSouthernOhio	35.00 @ 38.00 @ 40.00 @	40.00
IBOW ORE,		
Iron MountainSouthwestOre for fix	7.50 @ 7.00 @ 9.00 @	7.50

RICHMOND.

Mr. ASA SNYDER, Iron Merchant and Fur-Mr. Asa SNYDER, Iron Merchant and Furnace Agent, writes as follows under date of November 24: A fair business for the season has been done the past week. Gray Forge and Wheel Pig Irons are chiefly in demand. Old Rails, Wheels and Wrought Scrap are actively inquired for. I make no change in quotations, although, for the most part, higher figures have been obtained in recent transactions. About 1000 tons Gray Forge Pig Iron, on previous orders, have been received by consumers the past week.

American Scotch Pig Iron	@	
Anthracite, No. 1	\$20.00 (\$ 30.00	
11 No. 2	28.00 @ 29.00	
11 No. 3	96.00 @ 27.50	
Mottled and White	25,00 @ 20,00	
Coke, No. 1	30.00 @ 31.00	
" No. 9	20.00 @ 30.03	
Va. Warm-blast Charcoal, Cold-sho		
Cold-blast " Neutral	30.00 @ 41.00	
Old Rails	20,00 (30,00	
Wrought Scrap No. 1	27.00 (\$ 28 00	
Machinery " No. 1	23.00 (6 24.00	
Richmond Refined Bar Iron, Stand'	d. 3% @	
Horse Shoes, Tredegar		
Mule " "	4.75 @. 5.00	
Old Dominion Nails, (standard size).	3.60 @	
Freights to New York, \$1.00 for 2		

Our English Letter.

Review of the British Iron, Steel, Metal and Hardware Trades.

(From our Regular Correspondent.)

LONDON, ENG., Nov. 10, 1879.

TRADE IS BETTER,

on the whole, since the date of my last letter, although it must be admitted that its growth although it must be admitted that its growth is not precisely in those departments which yield our manufacturers the most satisfactory profits or employment. Nevertheless, there is ample evidence on all sides that we are doing a larger turnover, and there are, besides, numerous indications of the likelihood of the wants of the market being still further enlarged. The speculation which had made great strides in the results of first processes has been severely and properly checked, to such an extent that those whose fingers have been burned will probably fight very shy of any renewed dabbling at present. This absence of the fictitious element will, it is believed, tend to the much greater steadiness the market as a whole, and will assist in the rectification of selling values in just such proportion as may be warranted by the actual requirements of consumers. There ooo tons, as compared with 8702 tons for are those, it is true, who have no great faith the corresponding week of 1878." in the elasticity of the home market, which they allege, and with much show of reason, is obviously too poor to yield any marked addition to business this year, or even far into 1880. The exceedingly unsatisfactory harvest supports this view; but, on the other hand, travelers who have recently been through the agricultural districts have done better than for a long time before, and they report a pretty general desire on the part of ironmongers and others to replenish their stocks, which are at present very low. With the prospect of a rapidly rising market before them, this desire on the part of the dealers is them, this desire on the part of the dealers is rent quotations are: them, this desire on the part of the dealers is perfectly natural, but its existence necessarily involves a danger in the opposite direction, which must apparently be met by means of longer credits. The present outcome of the feeling is, however, much additional buying in all over the country, a state of things which the manufacturers and merchants are not unnaturally endeavoring to foster by threatening further advances of prices. The strength of the market does not, nevertheless, wholly arise from the extra purchases shipbuilding, tin plate and other departments in Scotland, Wales, &c., which are especially as regards iron and steel and wool, ordering raw and other materials with re-

returns to be in a much more healthy position than for a long time past. These returns—the leading details of which I furturns—the leading details of which I furnish in another portion of this letter—may not be wholly satisfactory, but they demonstrate with incontrovertible authority that we are sending over sea quantities of pig and other iron, tin plates, steel rails, &c., which in the aggregate are immensely in advance of the turnover transacted during the same period of last year, as well as the first half of this. The critics may and do carp at and dissect the details of these returns, which they declare simply show that we are exporting raw materials for the United States and other countries to work up; but it is an unquestionable circumstance that the commercial classes of Great Britain are much comforted thereby—indeed, they almost universally hail the figures as giving the promise of better things to follow. Thus, all "totted up," matters are decidedly more hopeful, and there is, on every side, greater confidence in trade and its prospects. Per-haps one of the most cheering signs, or one of the worst symptoms—for both views meet with favor—is the

CONDITION OF THE MONEY MARKET in London. During the week the Bank of England has raised its rate to 3 per cent., after a long spell of 2½ per cent., owing to its "rest" or reserve having diminished within the seven days to the extent of over a million sterling. This decrease has been caused by the drain of gold into the Provinces—a usual occurrence immediately after harvest—but chiefly owing to the shipments of specie to the United States in payment for the breadstuffs, &c., we are buying from you. In France money is also becoming dearer from similar causes, and it is considered probable that in both countries there will shortly be a still greater scarcity of gold. Up to the present, however, we have experienced no commercial inconvenience on this head, the outside discount market being plentifully supplied with money at 2½ to 2½ per cent. It is believed, neverthe-less, that vast quantities of gold will shortly be shipped across the Atlantic, and that, be shipped across the Atlantic, and that, unless our exports increase in a remarkable proportion, we may seoner or later feel the pinch. On the other hand, the higher value of silver is of much service to everybody engaged in trade with the East and India, inasmuch as the more favorable rates of ex-shange make it possible to realize a profit on sales of goods sent there—a result which has for a long time been unattained.

SCOTCH PIG IBON.

after a period of depression, is again gather ing strength, and there is a rather wide-spread impression that considerably higher prices are imminent. Warrants have fluc-tuated to the extent of several shillings per ton since I last wrote, but they closed rather firmer, there being, inter alia, some probability of disputes with the men as to wages. and the consequent chance of a reduced production. Makers' brands have recovered slightly, as will be seen by the appended quotations. The statistics of John E. Swan angnty, as will be seen by the appended quotations. The statistics of John E. Swan & Bros. (Limited) show that there are now 364,591 tons in Connal's stores, an increase for the week of 8535 tons, and 164,000 tons in excess of the quantity held a year ago.

Makers are, no doubt, still sending in from their own stocks in order to obtain warrants, which can be negligible. which can be negotiated much more readily than iron itself. The shipments were below those of the preceding week, but much in those of the preceding week, but much in excess of the comparative period. They were mostly foreign. The importation of Middlesboro' pig into Scotland was larger, but not up to the average. Ballast pig is still quoted 45/ per ton alongside. There are 95 furnaces in blast in Scotland. Writing from Glasgow, on November 7, James Watson & Co. said: "The Scotch iron market has been Glasgow, on November 7, James Watson & Co. said: "The Scotch iron market has been strong this week, with a very large business transacted at advanced prices. On Monday the opening figure was 52/9, declining to 52/6½ per ton, afterward rallying and closing firm at 53/3, cash. On Tuesday the market opened at 53/6, receded to 53/4 and then improved to 53/9 per ton. On Wednesday forenoon a good business was done between 53/10½, 53/9 and 54/6, cash, and in the afternoon it improved to 54/to, cash. Yesterday a very large business was done between 55/ and 57/1½, cash, closing at 56/6 per ton. To-day the market opened at 56/10½, drooped to 56/, rallied to 56/9 and closed in the forenoon at 25/10½ per ton. The afternoon business was transacted between 56 and 55/1½, closing with sellers at the latter figure, and buyers at 55/ per ton. There has been more demand for makers' iron, with a few alterations in the quotations.

G. M. B., at Gl	0000	107									No. 1.	No.
												5
Gartaherrie,				0	0 0	. ,	0		 0	ė	60/	.5
Coltness,	6.6							0			63/	5
Summerlee.	8.5										60/	5
Langloan,	9.6										60/	5
Carnbroe,	44										59/	5
Calder, at Port	Du	ada	M	i.							50/	5
Glengarnock,												5
Eglinton.		-									58/	5
Dalmellington.		51	•								58/	5
Shotts at Leitl	h					٥			۰		60/	- 5

			G. M	. B.					
No. 1	Foundry								
- 1	46		45/	White	2.62				40
3			42/6	Kentle	dge		 		47
4	Forge		43/6	Cinder					
All	net cash,	del	ivered	l f. o.	b.	at	m	ia.	ke

wharves in the Tees. THE BOARD OF TRADE RETURNS

for the month of October (the issue of which has been awaited with much curiosity and of the retailers, but is being largely con-tributed to by the renewed activity of the They show a decided improvement in the ordering raw and other materials with remarkable freedom, in consequence of the recent placing of heavy contracts. Collaterally, the briskness of the Bessemer and rail mills aids in extending the steadiness of general quotations. Apart from all these causes, and, in a certain sense, of more respectively £157,864,097 and £762,781.636, writing I have beard direction. Since my causes, and, in a certain sense, of more respectively £157,864,097 and £762,781.636, writing I have heard of the following so that there is now little or no probability North Staffordshire bars, sheets, plates, &c. for the aggregate for the whole of this year of which are shown by the Board of Trade exceeding that for 1878. Our imports dur-

£32,310,505 as compared with £29,532,303 in October, 1878. For the 10 months, however, the totals are £292,462,797 this and £313,203,375 last year. The increase last month was chiefly in respect of bacon, fresh American beef, wheat, meal and flour, cotton, flax, wet hides, potatoes and tallow. Returning, however, to our exports, iron and steel are found to occupy a most prominent position. The figures for the month show an increase in quantity of about 57 per cent., and in values of about 19 per cent. In October, 1879, the quantity was 343,373 tons, against 218,681 tons in the same month of 1878, the respective values being £2,027, 505 and £1,698,252. For the 10 months th quantities are 2,323,493 tons this and 1,956,284 last year, and values £15,648,039 and £15,611,439, respectively. Much of the improvement shown by the returns relating to the past month is owing to the large sales of pig iron, of which we sent you 87,491 tons, as compared with 3208 tons in October, 1878. Several other countries also bought largely of this material. Bars, angles, &c., exhibit very little change—but in this case also an important proportion of the augmentation is due to your purchases. Railroad shows a slight advance, the smaller business with Germany, &c., being more than compensated Germany, &c., being more than compensated for by the 6468 tons set down to the United States, which bought 78 tons only in October, 1878. Hoops, sheets, boiler, &c., plates sold less freely on the whole, although the tables show that the shipments to your ports were rather heavier. The movement in tin plates is again shown to have been set factory, when accounts to have been satisfactory, your account showing 14,345 tons, as contrasted with 11,-100 tons in the comparative period. In cast or wrought iron there was a falling off, owing to the more limited requirements of Brazil, for which country some large orders have just been completed by Glasgow houses. The jump of last month in 'old iron for remanufacture' has been well upheld, your lots reaching a total of 23,111 tons, whereas in the same month of 1878 you are credited with 309 tons only. Unwrought steel does not move along very rapidly, but here again the improvement is largely at-tributable to your purchases. Under the comprehensive and important head of "Hardware and Cutlery" there is shown a decrease in values for last month, the extra sales to the United States being lost in the notable falling off of business with Austraia and the unclassified countries. This fact confirms the suspicion that the Australian market has been overstocked and alto-gether "overdone." Our business with steam engines fell off, but in other descriptions of machinery and millwork there was an augmentation. The only movement in in metals worthy of note was the considerable growth of the trade in unwrought tin with the United States. The subjoined figures give some of the leading particulars of the official returns:

HARDWARE AND CUTLERY. October. 1877. £6,753 1878, £12,737 17,139 7,174 11,850 6 824 23,867 9,170 19,180 7,256 14,725 Germany Holland France ro,938
Spain and Canaries ro,938
Spain and Canaries ro,948
United States ro,949
Spanish W. India Is ds ps,936
Brazil ro,940
Argentine Republic ro,777
British N. America 15,090
British India 28,968
Australia 79,343
Other countries 92,565

Total	3	14,846	313,949	268,210
BRITISH EXP	ORTS T	O THE U	MITED STA	TES.
Article.	Octo	th of ober. 1870.		nths end- et. 31.
Alkali, cwt				2,809 438
Copper, unwr't,		0 0.70		. ,, ,,
Copper, wrou't,		320		940
Earthe nware,			773	344
Chinaware, £. Hardware and	67,393	72,795	481,696	566,619
cutlery, £		33,693	253,618	277,047
Pig, tons Bar, angle, bolt	3,208	87,491	23,282	164,134
and rod, tons. Railroad of all	485	2,242	4.313	5,532
sorts, tons Hoops, Sheets,	78	6,468	703	28,575
plates, &c.,t'ns Tin plates, tons.	45 11,190	893 14.345	87,782	3,935 124,254
Cast or wrought, &c., tons Old, for reman-	319	826	1,826	6,863
ufacture, tons. Steel, unwro'ht,	309	23,111	1,485	82,960
tons Lead (pig. pipe,	492	791	4,006	4.981
&c.), tons Machinery and millwork, not	38	165	188	730
being steam engines, £ Tin, unwrought,	9:442	15,006	112,058	133,003
cwt	636	4,100	7-544	21,996
Iron rails, tons Steel rails, tons.		5,971 48x	335 501	14,731
	BULLE	TIN RET		

for the month show the following particulars as regards the United States: Imports of gold from United States.

marver	70,0
Total	£79.1
Exports of gold hence to United States	£1,508,68
Total	£1,568,18 £79,15
Balance in favor of United States	£1,489,02
A COMPARISON	

as to the balance of trade between the two countries is afforded by the subjoined official figures for the nine months ending September o in 1878 and 1870 :

Value of imports from United States: 1878. Ports on the Atlantic £67,499,004 Ports on the Pacific 3,105,340	1879. £59,842,230 3,738,383
Total	£63,580,613 £13,014,301 353,164
Total £11,179,877	£13,367,465
Balances in favor of U.S. £59,424,467 THE WEEK'S ADVANCES,	£50,213,148

ing last month were of the declared value of Barrows & Son, Tipton, withdraw all quo-232,316,565 as compared with £29,582,303 tations: Staffordshire cut nails—clasp or tations; Staffordshire cut nails—clasp or rose to 9/6 @ 18/6; floor brads from 9/3 @ 9/9; lath nails, 12/6 @ 15/6, and joiner's brads, 11/6 @ 12/6 P cwt.; shoe heels, 3d. @ 6d. P cwt.; F. Braby & Son, London, zinc, &c., goods, 2½ & less discount; rails nominally 10/ @ £1 dearer, both for iron and steel; Belgian nail rods and bars, 10/; Belgian joints and circler 10/; irony at and steel; Belgian nail rods and bars, 10/; Belgian joists and girders, 10/; ivory at quarterly London sales. East Indian, £1 @ £5 dearer; Cape, £5 @ £6; Egyptian soft, £1 @ £2, and West Coast, £2 @ £5; Carron & Co.'s foundry goods, 5 £ less discount; Wrought tubes, 2½ ditto; hinges, 2½ ditto; South Staffordshire marked bars, 10/, making them £8, and Lord Dudley's, £8, 12/6; sheets, 10/ @ £8, and £8, 10 for singles, £0. 10/ @ £10 doubles, and £10, 10/ @ £10

are by many persons hailed with much satisfaction as affording a ready, safe and pacific means of regulating the proportionate relations and profits of capital and labor. It can scarcely be doubted that that result ought to accrue from such arrangements, provided both sides fully comprehend what that are doing, and the men are made to thoroughly understand the manner in which the scheme will work prior to its coming into operation. In theory, at all events, nothing could possibly be fairer and more equable than that the renumeration of the workmen should be in fixed proportion to the prices realized by the employers, and in practice there need also be no difficulty, if the men will faithfully ob-serve the conditions of the contract on a falling as well as on a rising market. In Cleveland, for instance, the blast-furnace men, having demanded a rise of 15 per cent., their employers met them by ar-rangement, and it was mutually agreed that, besides an immediate advance of 10 per cent., future changes should be regulated in this wise: A shilling scale on the basis of 36/per ton as the selling price of No. 3 iron, and for every 2/ in the price there will be an advance of 2½ per cent. in wages, and an equal fall when prices recede until the basis is reached. In the case of certain works, at the end of every three months the average price for the past period will reguin this wise: A shilling scale on the basis of late wages for that ensuing. In certain parts of the country the miners are also favoring the introduction of the sliding scale arrange ment, but so far the coal owners have not moved in the same direction, owing, in all probability, to the difficulty they will expeprobability, to the dimension they will experience in fixing a minimum wages rate. In the Black country the great strike of wrought-nail makers is in process of disintegration, a number of the principal employers having agreed to allow the men to ployers having agreed to allow the men to resume work at 10 per cent. from the Feb-ruary, 1870, list for 14 days, and that list in full after November 22. I rejoice that this dispute is arranged, but I should rejoice much more if this worst-paid, worst-worked and most demoralizing of British industries were either swept away or properly consoli-

dated. I extract the following prices (all per ton) from the list of a London house of good status, as affording a means of useful com-parisons for your trade. On most of the articles the discount is 2½, but tin pipe, plumbers' solder and sheet zinc are net, and white leads 5 per cent :

	260	65.
Lead ore, picked, in a cwt, kegs	17	00
Pig lead	87	00
Sheet lead	18	00
Lead pipe	18	10
** tinned inside	20	00
Lead encased tin pipe	36	00
Composition gas tubing	20	OO.
Lead wire, to No. 12, 46/, 13 to 16	00	36
Hand leads, 28/, deep sea leads	00	26
Improved lead washers	u6	00
Lead nails	50	00
Tin pipe	130	UU
Bar lead	17	-5
Patent shot	20	Ota
Hardened shot	30	10
Tin in ingots	92	COL
Plumbers' solder	50	00
Tinman's "	60	00
Genuine red lead (original packages)	18	10
" Reduced "	17	10
** No. 1 **	17	CO
14 No. 2 "	15	00

powdered ith Good foreign flake litharge powdered... Pale powder litharge. Orange lead, powdered English dry white lead. Genuine ground white lead. No. 1 No. 2 Sheet zinc, No. 9, upwards

FOREIGN.

FRANCE.

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BELGIUM (Revue Universelle.)

BELGIUM

(Recue Universelle.)

BRUSSELS, Nov. 8. 1879.—Iron.—There has been some demand, and some makers have in consequence been increasing their working capacity, but so far as prices are concerned, there is a slight reaction noticeable, and some flatness toward the close. Old Rails, fr instance, had from 70 @ 75 been driven to 105 francs, and have now receded to 103.50, and five lots of railroad material have been adjudicated at August prices. A great point has, however, been gained throughout the Iron regions of Belgium—i.e., a sufficiency of working all to avail themselves of their working capacity to its full extent. The rolling mills in particular have a valuable run of orders, although their output is 25 larger than it was previous to the revival. One works in the Liege—is used to turn out 1200 tons per mo. th. and now sells with ease 2000 tons of its make. At Charlerot one concern used to produce 800 tons per month, and has now a capacity to deliver 190 tons. The demand for railroad material for Holland, Spain and Italy is on the increase. The general opinion seems to be that, notwithstanding the temporary flatness above noted, there will be no decline of importance in prices of iron during the winter soason now approaching. Steel Axless have sold at 200 francs per ton. Coal.—The demand for Coal of all sorts has been so very brisk that there have not been freight cars enough to convey it. This is the second time such a thing occurs in the course of six weeks. The Coal companies seem to have faith in the future, and are not auxious to seel alread, even at a franca advance upon September rates. Our exchange is now well attended by producers, and a most active season is even dently drawing near in this fuel.

Hamburgo. Nov. 8, 1879. There is no reason to complain of a lack of activity in the Iron branch in Germany; business develops more satifactorily daily, orders are on the increase, and the hand-to-mouth trade observable previous to the revival, is at an end. Individual commands are large, both on the spot and to arrive, and the continual ductuation between extreme dullness and a fitful activity, which was then noticeable, has made room for steadiness and a hopeful spirit. We trust the change may be lasting, and not soon interrupted by some unforeseen disappointment in the mear future. The demand for Pig Iron for the foundries is active, as heretofore, not only in the Rhenish provinces and Westphalia, but in the Siegerland. Stocks of Spiegeleisen, which were considerable a short time since, have now dwindled down materially; the amounts shipping thereof, when hardly cold, are large, both at the Johanness and the Marienhuite, the bulk going to Belgium. Sheet Iron is also in increased demand; the same relates to the product of rolling mills, bringing about a further rise in prices. Rod Iron is worth 120 marks. Metals have been active, firm and partly higher. We quote as follows: Copper Drontheim, re @ 72 marks the 50 kilos; Minnesota, 82; English, 72 @ 74; ditto Sheathing, 50, and Yellow Medal ditto, 53 @ 50. Berlin quotes: English and Australian, 69 @ 70, full, and Mansfield, 74, 50 @ 75. Tin.—We quote: Ranca, 150 @ 105, and Iron. Nov. 150, and 150,

AUSTRIA.

Austrian Trade Journal, 12

Vienna, Nov. 9, 1879. The state of Austrian from markets is the reverse of satisfactory. There is still a lack of activity in the interior on the part of consumers of Iron in the manufactured state, and as our trade is confined within the bounds of the Empire no improvement can be expected until the general demand in the country revives. Austria is therefore situated differently from what is the case in Western Europe. Our raffroads are

behind hand with orders, and producers feel this very much, for there are a great many works specially installed to depend on this great industry. Railroad companies not manufacturing theirown Rails, but still requiring a supply, will probably wait till midwinter in hopes of procuring what they want at lower prices than the ruling ones; the demand for stoves has, however, been good, and has formed an exception, and it is to be wondered at that Pig Iron has not been indirectly influenced by the gradual reduction of stocks of stoves. The demand for Old Rails has continued steady at enhanced rates. Tin-Plate manufacturers in Austria have raised prices 2 florins per box. Metals have continued in their upward tendency, and we now quote at Vienna the 100 kilos. as follows: Copper,—Ingots and Prosettes, 75 florins; Australian, English and Mansfield, 85; and Old Compact Copper, 63 @ 68. Tin of all sorts, 715. Autimony, 67. Lead—19.50 @ 20; Shot, 26.50 @ 25.50. Spetter, 10 @ 21.50. Sheet Zine.—Mo. 5, 26 @ 20.50. Brass, 52 @ 50. Nickel.—97 %, 5 florins per kilo. Minium, 27.50 @ 28.50, all less 2 % for cash.

(Epoca.)

Madril, Nov. 7, 1870.—Copper.—The report of the Rio Tinto Company, of Huelva, in Andalusia, is highly favorable. During the first nine months of the year there were produced of Metallic Copper 580 tons, against 3342 tons during the corresponding period of the previous year. There have been sold monthly too tons of pyrites in excess of last year during the same time. To this increased output there is now being superadded the enhanced value of the metal. Freparatory work to bring into full play the valuable northern and San Dionisio veins is being pushed with the utmost vigor. Taking a general view of the situation of the company's property, it cannot be denied that the zame was vastly improved. Quick-silver.—Now that Quicksilver, from £5, 17/6 per flask of 75 pounds in July, has recovered to £7, 10/1 per flask in the London market, it is of some interest to remember the terms of the contract subsisting between the Spanish government and the Rothschilds with respect to the Almaden Quicksilver Mines. In 1870 the Rothschilds made a fresh contract with Spain, and loaned the latter \$12,000,000, to be paid back in 30 years by annual payments of \$1,400,000. In part payment of these installments Spain has bound herself to deliver to the Rothschilds at least 32,000 flasks annually, at a minimum price of £6 per flask, while the Rothschilds bound themselves to divide equally with Spain any excess over and above a selling price of £6, but not exceeding £3. Should the Quicksilver all higher than £3, Rothschild gets one-third and Spain two-thirds. The distribution will, therefore, be the following, should Quicksilver at any time again reach £1; Spain, in the first place, gets the minimum £6, then 5 of of £2 additional, £1, and £4 out of the £6 excess. In other words, Spain would receive £1 out of a selling price of £1, and £4 out of the £6 excess. In other words, Spain would receive £1 out of a selling price of £1, and £4 out of the £6 excess. In other words, Spain would receive £1 out of a selling price of the arrangement at

INDUSTRIAL ITEMS.

MASSACHUSETTS.

About January I the Worcester Machine Screw Company, of Worcester, will remove their machinery and fixtures from their present location to Beacon street, where they have erected a building 150 x 36 feet and 2 stories high, thereby more than doubl-ing their present capacity. The power for the new works will be furnished by a 35horse-power Corliss engine. C & J. A. Colvin, of Worcester, are to

build a new foundry. The main building will be 100 by 50 feet, and the wing 50 by

Tucker & Cook are setting up the ma-chinery for their new mill at Conway as fast as possible, and will soon have it run-

ning.
J. C. Waterman & Sons have made son additions and improvements to their tack factory at Hanover. Business is brisk and

The Fairhaven Iron Works have bought of the assignees of the Boston and Fairhaven Iron Works the entire property belonging to that corporation, consisting of foundry, machine, blacksmith and pattern shops, with all the patterns, tools and machinery, and are now prepared to fill orders for all kinds of building machinery.

The Lowel Machine Shop has been greatly

enlarged since they succeeded the "Propri-etors of Locks and Canals on the Merrimac River." They employ about 1000 hands. They make a specialty of cotton machinery, and are also engaged in the manufacture of paper machinery, turbine wheels, shafting, gearing, &c.

A large wooden building used as a storehouse by the Woodruff Iron Works, at Hart-ford. was destroyed by fire on the night of the 16th inst. Loss on machinery, \$4000; patterns, \$2000. The cause of the fire is

The Pratt & Whitney Company, Hart-ford, being pressed with orders, find theur present foundry accommodations insufficient and are putting up an additional building 50

NEW YORK.

The proprietors of the Cohoes Rolling Mill are adding to their works a water-wheel and a rotary squeezer, the latter in place of an old crocodile squeezer, and some minor improvements necessitated by the change. Their production thereby will not, for the t, be materially increased, as has been hed. The Tivoli Mill No. 2 is waiting for machinery.

PENNSYLVANIA.

The Mellert Foundry and Machine Co., Limited, is the name of the new company who, on November 17, took charge of the West Reading Pipe and Machine Works. They will manufacture cast iron, gas and water pipe of all sizes, from 11/2 inches to 45 inches in diameter, inclusive, with special castings, and all sizes of flange pipes, water gates, fire-hydrants and lamp-posts; also Canadian turbine water-wheels of all sizes from 12 inches to 60 inches in diameter. eter, and also castings and machinery of every description for furnaces, rolling mills grist and saw mills, mining pumps, hoists, kc., columns, brackets, iron railings, &c. The above works were established in 1848, and were lately doubled in capacity.

small engine used in running the grind-stones, and by having the iron cut up at night the factory is enabled to run as usual.

When running steadily, the nail factory of the Westerman Iron Works, Sharon, makes nearly 10,000 kegs of nails a month.

The repairs on the furnace and mill of the Shenango Iron Works, Newcastle, are pro

Shenango Iron Works, Newcastle, are progressing as rapidly as can be expected.
On Tuesday, the 18th, at Bradley, Reis &
Co.'s mill, Newcastle, some plates of iron
were turned out which measured 19 feet in length, 5 feet in width, half an inch in thickness, and weighed 1500 pounds each. These are the largest plates ever rolled in this part of the country. They were for a tank on the Chicago, Burlington and Quincy Railroad.

The Stewart Furnace No. 2. Sharon, blev The Stewart Furnace No. 2, Sharon, blew in on Friday the 21st, everything going off smoothly. With the exception of one short blast, these furnaces have not both been blowing together since their erection.

The rolling mill of the Reading Railroad Company, at Reading, the main building which is 420 x 90 feet, with two wings, 180 x 90 and 90 x 90, contains three vertical engines, 40-inch cylinders, 40-inch stroke, with o-foot fly wheels, each weighing 70,000 lbs. 30-foot fly wheels, each weighing 70,000 lbs. The annual capacity is 24,000 gross tons. The product of this mill in ten years, from 1368 to 1878, was 151,014 tons of rails. A notable instance of the endurance of the iron rails here manufactured is, that between 67,000,000 and 68,000,000 tons passed one of them, and when it was removed from

one of them, and when it was removed from
the track, only one-fourth of an inch was
worn from the top.

A large contract has been awarded to the
Scott works, Reading—that of furnishing
pumps and engines for the sewers of the
entire city of Boston.

The Easton Free Press says: The pur-

chasers of Uhler's Furnace intend, as soon as possible, to put the stack into blast. A gang of men were put to work cleaning up and getting things in readiness. Last week Messrs. E. P. Wilbur and G. B. Linderman, accompanied by expert workmen, visited the furnace, and made an examination of its condition. They found that the lining of the stack would have to be taken out, and the stack relined. They propose to put in two courses of lining, which will leave the stack 14 feet in diameter in the clear. A new elevator is to be erected, and a new cast house constructed. The engine will also have to be repaired. The dwelling houses are to be renovated, and be put in good condition. It will take about one month to reline the stack. The new owners expect to be able to have everything in full working order by the middle of January.

At the Franklin Iron Works, Reading, a new patent cupola, in which six tons of iron can be melted per hour, is being finished, and will be ready for use in a few days, which will greatly increase the capacity of the foundry. Some 65 hands are employed at present, and the force will be increased, as orders are coming in rapidly. At the present time a great deal of hot-blast pipe for furnaces is being made, among which are some 75 tons for Eckert Bros, Reading; 50 tons for E. & G. Brooke, Birdsboro; 16 tons for Ferguson, White & Co., Robesonia; hot-blast pipe and other work for Bushong & Co.'s Keystone Furnaces. A double hoisting engine is being made for E. & G. Brooke; portions of bolt machinery for J. H. Sternbergh; various kinds of castings for F. J. Obert and other parties. New At the Franklin Iron Works, Reading, a for F. J. Obert and other parties. New orders are received daily. Ten ore cars have just been built for the East Penn Iron Company at Lyons.

No. 1 Furnace of the Crane Iron Com-

pany was lighted, and on Thursday the 19th as blown in. All the furnaces (five in number) are now in blast, and doing remarkably ber) are now in blast, and doing remarkably good work. No. 1 is the oldest anthracite furnace in existence in America, having been lighted on July 4th, 1840, and been in operation at intervals ever since. No. 6 Furnace, blown in two weeks since, is operating very satisfactorily, having made last week the unprecedented amount of over 300 tons the second week after the blast was applied. No. 4 is doing equally well, all of which is creditable to the management

of the Crane Iron Works.

The Sharon Furnace, Sharon, is all cleaned out ready for the brick, which is ex-

PITTSBURGH AND VICINITY.

The Associated Press dispatch which was sent out last week, to the effect that the Denver and Rio Grande Railroad Company had just made a contract with a Pittsburgh firm for 15,000 tons of steel rails, to be de livered at the rate of 2000 tons per month, is a mistake. Mr. A. Kloman, of this city,

At the Superior Rail Mill, Allegheny, on Tuesday the 18th inst., 60 40-pound rails were rolled in 56 minutes out of a 7-inch bloom. In rolling the rails 17 passes are required and it is done in one heat.

A large steel hammer is being erected at the Superior Mills, and the plate mill sup-plied with new rolls.

The following is a list of the coal ship-

Wheeling		Barges, &c. 4 11 410 280	Bunhels. 80,000 234,000 4,579,000
Grand total The bushel is 76 po	33	705	7,996,000

WEST VIRGINIA. The relining of the Top Mill Blast Fur-nace, which fell in on October 3, was com-pleted on the 15th inst. It will be put into operation as soon as it is sufficiently dried. There was considerable delay in the arrival of bricks or it would be in operation at the present time.

Large quantities of metal for the Wheeling mills that have been laid up in barges, awaiting a rise in the river, are coming to

the city just now.

The Belmont Mill Furnace, Wheeling, receives its limestone from Elm Grove. оню.

nd were lately doubled in capacity.

The slitting machines at the Birdsboro all factory have been connected to the nall engine used in running the grind-ones, and by having the iron cut.

The Ironton Register says: C. A. Goddard, of Junior Furnace, is getting out a set of hearth rock at the Junior quarry, to be shipped to a furnace in Oregon. They will be loaded on the cars at Sciotoville. The cost on reaching their destination will amount to about \$2000.

The Burgess Steel and Iron Works, at

Portsmouth, have recently added three furnaces to their outfit. The mill now employs hout 268 men.

about 268 men.

The Hubbard Iron Company, after trying most of the others, have settled down on one of Homer Hamilton's patent hot blasts, which is now being erected at their works in Hubbard. The Hamilton hot blast was used in these furnaces some time ago, and the company have been experimenting with others until they are thoroughly satisfied that no other hot blast is in any way equal

to the Hamilton. Everhardt's Foundry, at Portsmouth, runs

Everhardt Fromtry, at Forsmouth, this till 9 o'clock now. Every rolling mill in Cincinnati, Coving-ton and Newport is making double time. The Ætna Furnace, Ironton, has 75 wood choppers at work making charcoal.

KENTUCKY.
The steamer Clifton took 100 tons of iron from Riverton to Pittsburgh, and 25 tons to Marietta, Tuesday, the 18th inst.

On Friday evening, the 7th inst., the Norton Iron Works, at Ashland, were damaged to the extent of about \$3000 by the connection between the blast cylinders having blown off. The gas valve that shuts off the gas from the hot blasts had not been shut down tight, and the gas and heated air, after passing through the hot blasts into the receiver, ignited and exploded, thereby

causing the damage.

The Hillsboro' Shear Company is a new
The Hillsboro' Shear Company is a new
The Hillsboro' Shear Company is a new the manufacture of a combined shear and button-hole cutter.

The Charlotte Furnace stopped up for repairs on Tuesday, the 18th inst. It is thought she will continue in blast till Feb-

All the small mills in the Springfield roll-All the small mills in the Springfield rolling mill, Springfield, are running to their fullest capacity, double turn, except the puddle mill, which is still on single turn. The company have a large force of hands working on their new steel works, with a view to having the same in operation by January or February next at the furthest.

MISS OURI. The Kingsland & Ferguson Mfg. Co., St. Louis, have turned their attention for the present to the manufacture of corn shellers. They are giving special attention to a corn sheller which obviates the necessity of husk

ing the ear.

The St. Louis Journal of Commerce says:
It is estimated that when Vulcan, Jupiter and Meiers' furnaces get to running next year there will be turned out nearly a thou-sand tons of metal daily in the St. Louis circuit of furnaces. This will require a production of more than twice the ore in this State next year as compared with the product of any previous year.

Heavy Locomotives for the Erie Railway.

When the Erie Company commenced preparations to lay a third rail, plans were drawn by the chief engineer, Octave Chanute, for a large class of locomotives, which would be of standard gauge, weighing 52 tons and with eight wheels. It was thought that a class of engines such as this could be used to advantage on the heavy grades on the Erie. Four of these large locomotives the Erie. Four of these large locomotives were constructed at the shops of the company at Susquehanna. These were tried upon the Jefferson Branch, a road that extends from that place to Carbondale, Pa. This road is 38 miles long, and consists of two hills, each 19 miles long, where may be found the heaviest grade on the Erie Railfound the heaviest grade on the Eric Railway. Proving satisfactory, a contract was given to the Grant Locomotive Works, of Paterson, N. J., for 30 locomotives, to comply in every particular with the specifications of the company. These engines were numbered from \$20 to 549, inclusive, and were delivered during the winter of 1878-9. When first put upon the road they were disliked very much by all the employees, and liked very much by all the employees, and terrible stories of how disastrous their emmore work had to be put upon them to keep them in running order. Neither did they haul more cars than the smaller engines.

Four of these locomotives were put upon the Delaware Division and 26 upon the Eastern, and it was upon the latter that the most difficulty was experienced. But as summer approached the large engines became more manageable, and more cars were added to their complement, until at last a maximum number was attained. This was a train of 40 loaded cars. Starting from Port Jervis with 40 cars they are assisted up "hill." extending from this place to the top of the Shawangunk Mountains, a distance of nearly 12 miles, by a pusher engine; then they draw their trains to what is known then they draw their trains to what is known as Goshen grade, a short hill just west of that village, which is less than a mile long, and here assistance is needed. From there to Greycourt they proceed alone. At this point the heaviest grade on the Eastern Division commences. It is less than three miles in length, but assistance is required. Arriving at the top of Oxford, as it is called, they enter the Ramapo Valley, and from there to Jersey City they need no help. At Port Jervis there are five pushers, at Goshen one and at Greycourt two, each to assist these large engines, with their trains of 40 cars, and it might look to those the old square brick stacks, and are giving the mill a general overhauling. It will be idle about three weeks.

Three new boiling furnaces have just been added to the Laughlin Mill at Martin's only necessary to present the other side of the case.

Formerly there were two classes of locomotives—four and six wheel connected—the former starting from this place with 16 cars and the latter with 18 and 20. They were not provided with pushers at any point with the exception of Oxford grade, where one pusher was kept. But it was the exception to use it. Arriving at Turner's, 42 miles distant from here and 45 from Jersey City, the trains "filled out" with 10 cars, their trains from that point consisting of 26, 28 or 30 cars, as the case might be. To secure their complement of cars, it was necessary to have them transported there, and this was done by "turning" one-third of the gangs and sending them back to Port Jervis. No light or empty cars were to be secured, Formerly there were two classes of loco-No light or empty cars were to be secured, except such as were lying at way stations, and generally one or two engines were sufand generally one or two engines were sufficient to do the work, and consequently eight out of ten came back "empty," the gang of 7 men taking it easy, generally all but the firemen going to sleep in the caboose, leaving him to run the engine and caboose to Port Jervis. For this they were paid at the rate of one day. Consequently, where it formerly took 30 engines to haul 600 cars over the road, it now only requires 15, assisted by the pushers stationed at the various points. Dividing the 16 additional "pusher gangs, or 48 men, by 7, the number comprising an ordinary freight gang, gives about 7 full gangs, which, added to the 15 saved in the number of trains, makes 22, auling 600 cars from Port Jervis to Jersey lity. In hauling the traffic of the Erie, which ranges from 1200 to 2000 cars daily, the cost is correspondingly decreased as regards the pushers, as the same number is used for the greater traffic as for the less. In handling 1200 cars, 16 gangs are dispensed with, and 1800, 24 gangs. The time

have just been placed upon the road. Neither has the prophecy as to the dis-charge of employees on account of the extra cars they haul come true, as to-day there are as many gangs as formerly, and they make more time. In fact, new gangs have been added recently. This is in consequence of the increased traffic done by the company. the increased trainc done by the company. It is asserted that if the company had not adopted these ponderous locomotives, or "iron mountains," as they are locally termed, it could not, with its increased traffic, so easily handle the number of cars it now does. To do it with the motive power it formerly employed would make necessary the construction of a third track.

Mr. Philippart's Career.

A correspondent, writing from Paris, gives the following account of the career of Mr. Philippart, the John Law of this entury

Nothing is more talked of at the pres ent moment in France than what will henceforth be called the "Philippart Legend." This astonishing man has found Legend." means to surprise the expectations of the wildest imagination. A day will come when it will be hard to believe that his history does not belong to the world of novels. Five years ago, toward the end of 1874, Mr. Phil-ippart suddenly burst forth like a meteor on the Paris financial horizon. He created the Banque Franco-Hollandaise, became president of the Crédit Mobilier, attached himself to many other companies, came to grief some months after, and was declared bank-rupt both at Paris and Brussels, his liabilities amounting to 28,000,000 francs. Four years elapsed, the catastrophe was sinking into oblivion, when Mr. Philippart reappears. It was noised about that he had settled with his creditors, not in cash, which would not his creditors, not in cash, which would not have been difficult if he had had it, but by showing them, as was perfectly true, that he had not enriched himself at their expense; that he had worked conscientiously, but had succumbed to a coalition against him—to a coalition of great railway companies who sought to prevent him from panies who sought to prevent him from grouping all the small lines then vegetating in impotence into a seventh great company. His creditors believed him, absolved him, and he reappeared in the financial world. He created a new bank, the Banque Européunknown.

The new iron bridge at Thomaston is completed. It is 140 feet long, with foot bridges on each side, and a road-bed of concrete. It was built by the Canton Bridge Company, of Canton Objective Company, of Canton Objective Canton Objective Company, of Canton Objective Ca prognostications would prove true, for it took much longer to get over the road with the than with the smaller engines, and the the put upon them to keep the day of the put upon them to keep the day of the put upon them to keep the day of the put upon them to keep the day of the put upon them to keep the day of the put upon them to keep the day of the put upon them to keep the day of the put upon them to keep the day of the put upon them to keep the day of the put upon them to keep the day of the put upon them to keep the day of the put upon the promises. He simply reminded the public that it was he who invited it to subscribe. for four times over. A general meeting held at Brussels authorized him to continue his issues, and 17,000,000 francs entered the coffers of the Banque Européenne. The history of speculation furnishes few examples of such a success obtained in such The circumstances. Then commenced a kind of part bought an enormous number of shares in the Crédit Mobilier, the chairmanship of which he wished to recover. His name was mixed up with a variety of schemes. He was to utilize the site of the Marseilles Lazzaretto, to work the Algerian Alfa Company, to construct the Paris underground railway, to form an international assurance and reassurance company-in short, he shone more brilliantly than ever, and as if endowed with financial ubiquity. At the settlement of the 15th of October, it was whispered that some difficulties had im-peded his operations, and that he had to pay very dearly for money for continuations. The settlement, however, passed over. days ago he announced to the board of the Banque Européenne that the coming settlement would be difficult, that he found it hard to raise money, and that he was manned by gangs of two men, working going to Liége to procure some. He started, alternately night and day. Altogether there are 18 gangs of men which are needed pected; but one day—two days passed pected; but one day—two days passed without tidings. On Tuesday even the Européenne Board met, and a telegram was sent to him; but there was no reply. The bank's legal advisers were then sent for and the state of things was examined into. M. Philippart's liabilities to the bank came to 3,000,000 or 4,000,000 francs; held an enormous quantity of Crédit Mobilie: the firms of La Louviere and Charleroi.

shares, and it reckoned its share in the purshares, and it reckened its share in the purchase of the Grand Hôtel and Hôtel Scribe as an asset of 3,000,000 or 4,000,000 francs. The position of the bank, which had as yet transacted only four or five affairs, was therefore good on condition of the bonds it held not being thrown on the market. The statutes provided that no operation of M. Philippart should bind the concern unless indorsed by two directors. The board de-cided not to accept the responsibility of M. Philippart's Bourse operations. These were of two kinds—one in Crédit Mobilier shares on the Bourse, the other in paid-up shares of on the Bourse, the other in paid-up shares of the Banque Hypothécaire not yet admitted to quotation on the Bourse. On the board's decision and M. Philippart's disappearance becoming known on the Bourse, the effect was like a thunderclap. M. Philippart was "executed," as it is called, the balance due by him reaching 6,800,000 francs. Imagination then commenced its flight. It was announced that M. Philip-part had telegraphed that he was coming back with the sum necessary to meet his en-gagements; he had been seen at Brussels, at Liége, at Ghent; it seemed as if he had followed the same track as the Wandering Jew. Next, his actual return to Paris was announced; then it was stated that he had neither written nor telegraphed; and this evening it was affirmed that a compromise was about to be effected between the Européenne and the brokers on a basis to be leaving a clear saving to the company of agreed upon so as to make the best of the eight gangs of men and eight locomotives in affair. Despite all this, imagination is still active. It is asserted that he is about to return. Like Frederick Barbarossa and Napoleon, this great vanquished speculator has votaries who cannot believe in his over-throw, and who await his return with un-shakable confidence. But the agencies are still reporting him everywhere, except, alas! in Paris, where for a second time he consumed in running between these points and burst upon the scene, and whence for is not much lengthened. The experience thus gained resulted in the ordering of 10 more of these monster locomotives, which acteristic that not a word is heard accusing him of having wittingly caused the evil, and those who have of late reproached him are quite ready to attribute to an overexcited brain the extravagant operations which have brought about his ruin.

> Destruction of a Kentucky Blast Fur-nace.—The Greenup (Ky.) Independent of recent date gives the following description of the burning of the Pennsylvania ()
> Furnace: Pennsylvania Furnace for Furnace: Pennsylvania Furnace for 34 years in succession has furnished profitable employment to hundreds of families, and has supplied not less than 65,000 tons of charcoal pig iron to the markets of the world. On November 9, at 7 o'clock, while the furnace was in successful operation, fire was suddenly discovered between the double floor of the bridge house near the double now of the bridge house near the furnace tunnel head, at the top of the stone stack, and the flames were rapidly communicated to the coal house, engine house, and pot house—all frame buildings. At the same time first one and then the other of the two boilers exploded, the one landing in a part of the mule stable, the other descending about 300 yards from the furnace. In their explosion the hot blast standing at the end of the boilers was upset and turned into a heap of rubbish. A like fate befell the engine and machinery, which were so badly smashed and twisted that they were nearly totally destroyed. All that could be done by the furnace hands was to save as much of the 375 loads of charcoal stored in the coal house as was possible, and 200 loads were saved. The total loss may be put down at \$15,000 or more, with no insurance. For-tunately nobody was injured or killed. The loss is a serious one to the Eastern Kentucky Railway Company, owners and operators. We have not learned if the proprietors intend to rebuild or prefer to abandon the property for furnace purposes. The latter seems to be the more probable, as the timber resources of this property have been pretty well exhausted.

In a paper read before the Iron and Steel Institute at its recent Liverpool meeting, Mr. G. Radcliffe incidentally mentioned a case in which steel boiler plates had, when exposed to the same circumstances as adjoining iron plates, distinguished themselves by pitting more than the latter, the steel plate next to the iron being oxidized considerably more than any other. The following analysis by Mr. Edward Riley gives the chemical composition of the steel:

Carbon	
Sulphur	
Phosphorus	
Manganese	
Copper	
Tron	00.2

Mr. Radcliffe's conclusion, although he does not distinctly state it, is that it will not do to place iron and steel side by side.

In Russia, up to the present time, there are 205 works engaged in the manufacture of agricultural machinery. Of this number 80 use steam-power for driving their lathes, 7 water-power and 90 horse-power. The remainder use only hand-power. best thrashing machines, copied generally from foreign models, are manufactured in the Riazansky government. They cost 90 to 120 roubles, and are sold in notable quantities in the middle parts of that district. In order to stimulate this industry the railway tariff must be lowered, as at present, on many railways, the tax for the convey ance of agricultural machines is about 10 per cent. of the cost of the machines.

The Journal des Débats describes a plan bout to be carried into effect for deepening the Seine, by which vessels drawing nine feet of water will be enabled to reach the eastern extremity of Paris. The works will cost about \$9,000,000.

It has been decided to use iron sleep ers in future on the Belgian railways. The Cockerill Iron Works has accepted a contract for 300,000, and other contracts have been and are going to be distributed among

EAKING





The demand for Scroll Saws has become so large that most Hardware dealers are getting in the way of keeping them.

The trade commences in early fall and lasts all winter, thus helping business in the dullest season. There is probably not a Hardware store in the land but that could sell

dullest season. There is probably not a hardware store in the land but shall some of these goods.

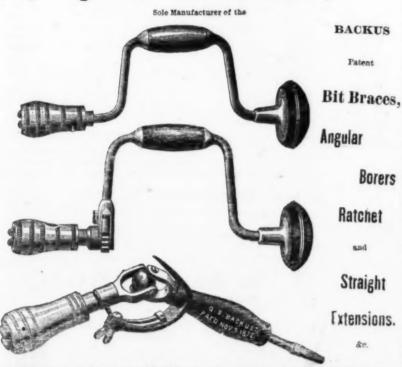
We are headquarters for hand and foot-power Saws, Saw Blades, Wood, Designs and all things pertaining to this business. The Lester Saw at \$8 and Rogers Saw at \$3 are now in universal demand. The Lester Saw consists of a Scroll Saw, Circular Saw, Drilling Attachment, Emery Wheel, Dust Blower, Turning Lathe and Tools, extra Saw Blades, Drill Points, Designs, Screw Driver, Wrench, &c. It has been greatly improved since last year, and is a very perfect machine. The Rogers Saw consists of a Scroll Saw, Drilling Attachment, Dust Blower, Designs, Drill Points, Saw Blades, Wrench, &c. The Saws are nicely boxed, without extra charge. We warrant them in all respects. They give

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It is made of iron, will It is made of iron, will flt any sack, wide or narrow, and will last a fit any sack, wide or narrow, and will last a lifetime. Just the thing for the Hardware trade and Agricultural Implement dealers. A large discount to the trade and agents. Your orders respectfully solicited, and agents wanted for this best selling article in the market. Address,

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Who would do with-out it for \$1.50. The platform does not go with the holder; it is extra if wanted.



Rear of 407 Cherry St., Philadelphia, Pa. LANE BROS., Millbrook, N. Y.

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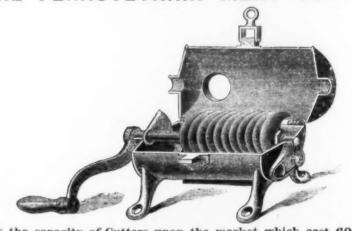
NOVEMBER 10, 1863, FEBRUARY 23, 1864, REISSUED JUNE 1, 1869, IMPROVED AUG. 1, 1877.

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PRICE LIST.

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ount to the trade so %

LLOYD, SUPPLEE & WALTON, Philadelphia.



We call the attention of the trade to the whistle for speaking tubes, represented in above cut, as being superior, in a mechanical point of view, on account of the

PATENT ELLIPTIC SPRING,

which is much less liable to break and get out of order than the spiral spring usually used. These whistles being made entirely of metal, are very strong and durable. They are offered in a variety of styles at very reasonable prices. Send for illustrated circular and quotations.

We also invite an examination of our PATENT HEVERSIBLE DOOK LOCKS, which by their peculiar construction, combine simplicity, strength and durability. In these Locks the combination of the Patent Lever and Spring renders the latch movement very easy and prompt in action. Illustrated catalogues and price lists furnished on application

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LANE'S MEASURING FAUCET. Price, \$3.00.

For Light or Heavy Molasses, Olls, Varnishes or other Fluids.

We warrant these Faucets to be as represented, measuring correctly and working more easily in heavy molasses than any Measuring Faucet in the market. No grocer can afford to be without them, for they save time, and "time is money." They insurs perfect



Factory Workers in India.

Lord Shaftesbury has brought to the at-tention of the British Parliament the terrible condition of factory workers in India. We quote from the Textile Manufacturer In India there are now about 40,000 peo ple engaged in the mills erected and worked on the English system. These operatives are employed month in and month out, young and old, women and children—yea, even mere babes—for twelve—in many cases

more—hours a day, without the occurrence
of a day of rest. No Sundays, no Saturday
half-holidays, ever dawn for them. The
only holidays of the year are 14, but it
is questionable whether the workers get the is questionable whether the workers get the benefit of even these. The proprietors are mostly Parsees, with here and there a European director; "and flesh and blood, coal and steam—it is all one to the native millowner! Get as much out of them as you can is their way," says the noble earl, quoting the testimony of a gentleman of whose capability, experience and lengthened observation—which sufficiently in the heard on the vation—which entitle bim to be heard on the matter — we have personal knowledge. "Sunday and week day, rain or shine, so the continual grind goes on!"
The noble lord, after a full statement of

this case, concluded in these words: "The system is as yet in its infancy, and may easily be controlled; but allow it to acquire much larger proportions and it will put you at defiance. Of all the classes that toil for a livelihood, there is none so helpless, friendless and subdued as those wretched women.
They are doubly slaves—slaves to the mill owner and slaves to their husbands, who, disregarding the sufferings of their wives, revel at ease in their hard-won earnings. revel at ease in their hard-won earnings. They have no public opinion on their behalf—no press, no paid or voluntary agitators. In their distress they lift their eyes to the Imperial Parliament; and shall it be replied, my lord, that on the side of their oppressors there was power, but that the oppressed had no comforter? Heaven forbid such an issue!"

Parliament has prepared a hill for the

Parliament has prepared a bill for the relief of these wretched people.

Edge-laid Belts .- According to Leigh, a better method of producing a broad belt than the usual American double leather than the usual American double leather belting sewed together—a method by which the article can be made with the greatest ease, of any thickness or width, perfectly equal in texture throughout, and alike on both sides—consists in cutting up the hides into strips the width of the intended thickness of the belt, and setting them on edge, these strips to have holes punched in them about 1/4 of an inch in diameter and r inch apart; nails, made of round wire, clinched up at one end for a head and flattened at the other, are used for fastening the leather strips together. Each nail is in this case half the width of the intended belt, and after the strips are all built upon the and after the strips are all built upon the nails, the ends of the latter are turned down and driven into the leather, thus making a firm strap, without any kind of cement, splicings, or similar treatment. When a splicings, or similar treatment. When a strap made in accordance with this plan re-Near First.

quires to be tightened, it is only necessary to take it asunder at the step lines of the splice, cut off from each end of the strap what is required, and piece up again with wire nails or laces, going entirely through the strap.

The Patent Office and Trade-Marks. Since the announcement of the Supreme Court's opinion adverse to the constitutionality of the national trade-mark law, the Commissioner of Patents has received a number of letters demanding a return of fees received by the Patent Office for the registration of trade-marks, and many other communications inquring what course will be pursued in regard to the pending or future applications for the registry of trademarks, presented on behalf of persons who desire to avail themselves of the existing registration system, for the purpose of making a record of evidence with a view to future legislation on the subject or for use in suits between residents of different States. which, in the opinion of some of his cor-respondents, might still be maintained under respondents, might still be maintained under the Supreme Court decision. All such inquiries are answered by the following circular, which has been prepared by Commissioner Paine in accordance with instructions given to him by the Secretary of the Interior: "The Supreme Court of the United States having adjudged the act of July 8, 1870, regulating the registration of trade-marks to be unconstitutional, action on pending applications will be suspended until further instructions shall be received from the applicants. Trade-marks will hereafter be registered on pending or future applications only in favor of those persons who, with full knowledge of the decision of the Supreme Court, shall request such registration. Fees heretofore paid in trade-mark cases cannot be refunded without further legislation by Congress." legislation by Congress."

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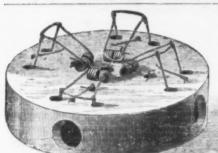
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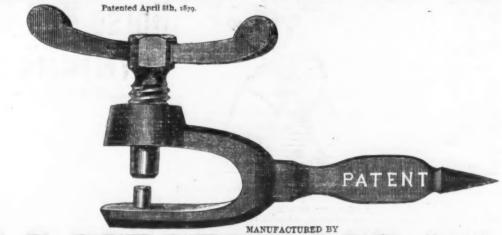
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(Pat. Jan. 29, 1878) manufactured in manufactured in every variety of style. Silver-Glass, Silver Center, Fine Cut, &c. Fitted with heavy silver-plated mountings. Extend from 1 to 3 inches. They can be adjusted to doors of any thickness without the annoyance of the old-fashioned washers and pins.
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bursting of the glass

bulbs.
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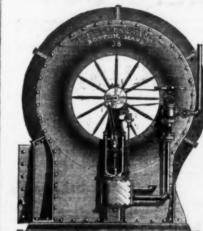
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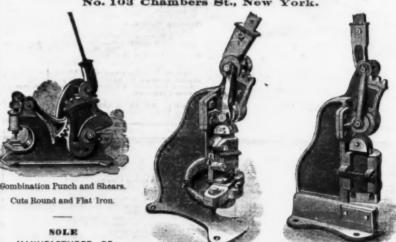
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and Index to Advertisements.	Lane Bros., Milbb Fifes, Importers of Carr J. & Riley, &s Moss F. W., &s Joh Files, Mannyactur Auburn File Worl Barnett G. & H., 41 Disston Henry & & Draper C. T., Sing Everhart James M Johnson & Bro., 1
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Hotchkiss Guy C., Field & Co., 622 E. 14th, N. Y31 Lambertville Iron Works, Lambertville, N. Jti Sheldon & Co., Auburn, N. Y	Flint and Emer; Bacder, Adamson Fluting Machine Shepard Hardwar
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Bleycles. 2 20 3 3 3 3 3 3 3 3 3	Whitehead Broa., Fry Paus. N. Y. Stamping C Furnaces, Maker Richmond & Pott Furniture Sprin Carey & Moen, 24 Haigh J. Llovd, 8; Galvanized Iroi Lefferts Marshall, Garden Toois. Dunlap C. W. & C. Enterprise Mfg. C Gearing.
Maxhelmer John, 247 and 249 Pearl, N. Y	Garden Toots. Dunlap C. W. & Co Enterprise Mfg. Co Gearing.
Millers falts Co., 74 Chambers, N. Y	Governors.
McMillan Wm. H. & Bro., 113 South, N. Y. 7 Penfield Block Works, Lockport, N. Y. 25 Providence Tool Co., Providence, R. I. 32 Blooms.	Grindstones, Wood H. S. & Co., Wood Walter R., a Worthington & Sc Gunpowder, Mal Kneeland F. L. (D Laflin & Rand Pov
Eames' Petroleum Iron Works, Titusville, Pa	Laffin & Hand Pov Handles. Makers Hartigan Wm. R., Hundley & Hanks Hangers, Harn Kidder Slide Door
National Bolt and Pipe Mach. Co., Cleveland, O34 Sellers Wm. & Co., Phila and yo Liberty st., N. Y., 35 Wiley & Russell, Greenfield, Mass	Fernald & Sise, tor
Wiley & Russell, Greenheid, Mass. 33 Bolt Forging Varchines. 34 Forsatth S. C. & Co., Manchester, N. H	Graham & Haines Heaton & Denckli Hundley & Hanks Samuel & L., 57 Ce Tennis & Wilson.
Brinss, Manufacturers of. Ansonia Brass and Copper Co., 19 Cliff, N. Y., 24 2 Bridgeport Brass Co., Bridgeport. Conn. 2 Brass Goods Mir. Co., 43 Chambers, N. Y. 31 Davol John & Sons, 100 John, N. Y. Holmes, Booth & Haydens, 49 Chambers, N. Y. 2 Manhattan Brass Co., 53 Reade, N. Y. 2 Merchant & Co., 60 Brasket & Phile N. Y. Fluid Co., 19 Broome, N. Y. 2 Waterbury Brass Co., 26 Broadway, N. Y. 2	Whitley John R. A Hardware Deal Lioyd, Supplee &
Holmes, Booth & Haydens, 49 Chambers, N. Y. 2 Manhattan Brass Co. 33 Reade, N. Y. 2 Merchant & Co., 67 Market st. Phila 27 Plume & Atwood Mfg. Co., 80 Chambers, N. Y. 2	Hardware Impe Boker Hermann & McCoy & Co., 134 a Hardware Man Comly Jas., 4739 P. Coulter, Flagler & Cowles Hardware Day. Farrington &
	Comiy Jas., 4739 P. Coulter, Flagler & Cowles Hardware Day, Farrington & Enterprise Mfg. Co
Brick Machines. Miller S. P. & Son, 320 S. Fifth Phila	Greenfield Tool Co Lloyd, Supplee & Miller's rails Co., Payson Mfg. Co., Phila. Novelty Mf. Bussell & Erwin M
Batcher and Shoe Kuives, Manufacturers of. Wilson John, Sheffield, England Butts and Hinges, American Soiral Spring Butt Co., 82 Beekman, N. Y. 66	Phila. Novelty Mf. Russell & Erwin M Shannon J. B. & S Shepard Hardwar
Bridge Builders. Moseley fron Bridge and Roof Co., 5 Dey. N. Y	Russell & Erwin N Shannon J. B. & S Shepard Hardwan Stanley Works, No Star Salt Caster C Tiebout W. & J., 2 Trenton Lock & H Unnow Mfz. Vo.
Townsond, Wilson & Hubbard, Philadelphia	Union Mfg. Co., 90 Van Wagoner & W Hardware Specia American Machin American Tool Co
Dexter Spring Co., Hulton, Pa Car Axless Roberts A & P. & Co., 26s S. ath. Philadelphia	Van Wagoner & W Hardware Specia American Machir American Tool Co Shepar: Sidney & Suencer & Underh Sprague Novelty Weeks A. A., 3. Jo Harness Snnps. Covert Mfg. Co., V Hay Knives.
Cartridges. Schuyler, Hartley & Graham, New York	Holt Hiram & Co.,
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Buck Bros. Millbury Mass. Chucks. Cushman. A. F Hartford, Conn	Davis A. J. & Co., Hoisting Machine Box Alfred & Co., Clem & Morse, 413
Cary & Moen, 23 W. 30th, N. Y. 3 Dunbar Bron. Bristol. Conn Conl. Miners of. Ely E. B. & S. W. New York. 8 Pardee A. & Co., 111 Broadway, N. Y. 6 The Hoboken Coal Co., Jersey City, N. J. 6	Clem & Morse, 413 Harrington Edwii Sellers Wm. & Co. Hollow Chilled Totten & Co., Pitts Hollow Ware, Wells W. T., 75 Be, Hooks (Cotton & New York Handle
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Cani i nove. Shepard Sidney & Co., Buffalo, N. Y. 27 Coffee and Spire Mills. Lane Brothers, Millbrook, N. Y. 21 Enterprise Mf. Co., Philadelphia, Pa. 21	Horse Clippers. Boker, Hermann & Clark W., 232 Oxfo Horse Nails, Mak Ausable Horse Na Bridzewater Iron
Wister Francis, 230 S. Third, Phila	EP Nail Co., Clevel
Copper. Merchant & Co., 507 Market St., Phila	Putnam Nali Co., Saranac Horse Na Horse Shoes, Ma. Burden Iron Work Rhode Island Hors Schoenberger & C.
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Counters'link. Barber D. F., 1931 Washington, Boston	Dudgeon Richard, Lyon E. & Co., 470 Ice Cream Free: White Mountain I
Wile, Sieder & Co., 70 Marach, Pink. 31 Cutlery, Importers Of, 101 Duane, N. Y. 24 Clatworthy F. & W., 81 Chambers, N. Y. 10 Friedmann & Lautorjunes, 91 Chambers, N. Y. 19 Cutlery, Manufactures of, 11	Childs, Groff & Co Insurance, Bolter
Friedmann & Lauterjuns, 91 Chambers, N. Y. 18 Cutiery, Manufacturers of. Burkinshaw Aaron, Pepperell, Mass. 10 Goodell Company, Antrim, N. H. Henry Seymour Cutiery Co., 84 Chambers, N. Y. 10 John Russoll Cutlery Co., 20 Chambers, N. Y. 10 Marx Bros., 20 Broadway, N. Y. Meriden Cutiery Co., 20 Chambers, N. Y. 10 Rogers Wm., Wallingford, Conn. 10 Rogers Wm. & Son. Hartford, Ct. 11 Toe Lamson & Goodnow Mig. Co., 86 Chambers, N. Y. Wallace Bros., Wallingford, Ct. 11 Dash Lamps.	Hartford Steam B. Iron Brokers. Boynton Geo. A., 7 Etting Edward J., Hatry A. G., Pittat Iron, Charconi. R Quincy John W., 6
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Leigh Edw'd. B. St. Louis Elevator, St. Louis, 265.)e Door and Gate Springs. Dunne P. Il., 182 Fulton, N. Y	Borden & Lovell, 7 Carmichael W. J., Cooney Daniel F., Egleston Bros. & C.
Leigh Edw'd, B., St. Louis, Elevator, St. Louis, Mo., 6 Door and Gaite Springs. Dunne P. II., 132 Fulton, N. Y. Van Wasoner & Williams, 62 Boekman, N. Y. Door Holts. Ives Hobers. B. New Haven, Ct. Drilling, M. Chines, Makers of, Drilling, M. Chines, Makers of, Sellers, W. Humner, Worcester, Mass. Sellers, W. M., & Co., Phila, and 72 Liderty st., N. Y. 75. Taft Goo, C., Worcester, Mass. Thorne, De Haven & Co., Philadelphia. 34 Wiley & Russell M.C. Co., Greenfield, Mass. 35 Drop Forsings.	Williamson James Hron Dealers. Abeel Brothers, 19 Bonnoll, Botsford. Borden & Lovell, 7 Carmichael W. J., Cooney Daniel F., Egleston Bros. & C. Harrison & Gilloor Hoffman J. W. & C. Judson B. F., 45 at Kane C., Pittsburg Lundberg Gustaf, Middleton W. S., 5
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Equalizer. Bunger M. E. & Co., Indianapolis, Ind...

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Faucets. Wood Penfield Block Works, Lockport, N. T.,

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Watbridge G. B., 101 Chambers, N. Y. 20 Whitley John B. & Co., London and Paris. 16 Hardware Dealers. Lioyd, Supplee & Waiton, 625 Market, Phila. 21 Shepard Sidney & Co., Buffalo, N. Y. 27 Hardware Imperiers. Boker Hermann & Co., 101 Duane, N. Y. 24 McCoy & Co., 124 and 126 Duane, N. Y. 14 McCoy & Co., 124 and 126 Duane, N. Y. 16 Mardware Manufacturers. Comity Jas., 4729 Paul st. Philadelphia. 10 Cowles Hardware Co., Unamble, Conn. 36 Day, Farrinston & Co., 205 Third area, N. Y. 36 Enterorise M.R. Co., 205 Third area, N. Y. 36 Enterorise M.R. Co., 205 Third area, N. Y. 36 Greenfield Tool Co., Greenfield, Mass. Lloyd, Supplee & Waiton, 925 Market St., Phila., Pa. 11 Miller's Falls Co., 72 (Anambers, N. Y. 12 Paryson Mfg. Co., 1319 W. Jackson, Chicago. 21 Phila. Novelty Mfg. Co., 52 (herry, Phila. 9 Russell & Erwin Mfg. Co., New York. Shannon J. B. & Sons, 1000 Market, Phila. 8 Shepard Hardware Co., Buffalo, N. Y. 7 Stanley Torks, New Britain, Conn. 87 Tiebout W. & J., 290 Pearl, N. Y. Trenton Lock & Hardware Co., Trenton, N. J. 7 Union Mfg. Co., 92 Chambers, N. Y. 47 Van Wasoner & Williams, 82 Beekman, N. Y. 36 Hardware Specialties. American Machine Co., 1025 N. 4th, Phila. 8	Me Be
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29	Norway Shapes, Rollers of. Rowland Wm. & Harvey, Frankford, Philadelphia.36	
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1	Phosphor Bronze, Phosphor Bronze Smelting Co., 2038 Washington ave. Philadelphia	
6	Beatty Daniel F., Washington, N. J.	
9	Pickis, Masers of. Pierson & Co. 2a Broadway, N. Y. Pierson & Co. 2a Broadway, N. Y. Pierse, Fittings, etc., Makers of. McNab & Harlin Mig. Co., 45 John, N. Y. Pancoast & Maule, 227 Pear, Philadelphia. 12 Pipe. Water and dias., Makers of. McNeals & Archer, Burlington, N. J. McGod B. D. & Co., 20 Chestnut, Philadelphia. 13 Piane Irons, Manufacturers of. Huck Bros., Milloury, Mass. 25	
4	Pancoast & Maule, 227 Pear, Philadelphia	
4	Wood B. D. & Co., 400 Chestnut, Philadelphia33 Plane Irons, Manufacturers of, Buck Bros., Millbury, Mass	
II	Planes. Manufacturers of. Stanley Rule and Level Co., 29 Chambers, N. Y10 Placed Ware.	
97	WOOd R. D. & CO., 400 Chestnut, Philadelphia	
13	Norwegian Plow Co., Dubuque, Iowa. Plumbers' Materials. Manufacturers of. Carr Wm. S. & Co., 106 Center, N. Y	ı
5	Pocket K nives. 36 Pocket K nives. 36 Boker Hermann & Co., tot Duane, N. Y	
4 5	Forsath, S. C. & Co., Manchester, N. H	
4	Mohawk & Hudson Mfs. Co., Waterford, N. Y	
5	Plews. Norwegian Plow Co., Dubuque, Iowa Plumbers' Materials. Rans/acturers of. Carr Wm. & & Co., to Center, N. Y. 33 giverhart Jas. M., Soranton, Pa. 35 Pecket Kulves. Boker Hermann & Co., to Duane, N. Y. 24 Power Hammers. Boker Hermann & Co., to Duane, N. Y. 35 Porsaith, S. C. & Co. Manchester, N. H. 15 Porsaith, S. C. & Co. Manchester, N. H. 15 Porsaith, S. C. Williams, 167 Presses, Power, Makers of. Presses, Power, Makers of. Presses, Power, Makers of. Bliss & Williams, 167 Pymouth, Brooklyn. 34 Merriman A. H., West Meriden, Conn. 35 Peerless Punch & Shear Co., 25 Dey, N. Y. 35 The Stiles & Parker Press Co., Middletown, Ci. 35 Pullievs.	ı
5 5	Putiteva. Brown A. & F., 57 Lewis, N. Y	
6	Penneid Block Works, Lockport, N. Y	ı
4	Providence Tool Co., Providence, R. 33 Pumps, Nakers of, Acid Pump & Siphon Co., New London, Conn. 10 Douglas W. & B., Middletown, Conn. 27 Gunnison A. B., Erie, Ponn. 34 Rumsey & Co., Seneca Falls, N. Y. 7 Rumsey L. M. & Co., St. Louis, Mo. 32 Union Mig. Co., & Chambers, N. Y. 7 Rails, Iron and Steel, Makers of, Cambria Iron Co., Colustown	
4	Rumsey & Co., Seneca Falls, N. Y. 7 Rumsey L. M. & Co., St. Louis, Mo. 32 Union Mfg. Co., 35 Chambers, N. Y. 7	
4 4	Rails, Iron and Steel, Makers of. Cambria Iron Co., Johnstown, Pa., Cleveland Rolling Mill Co., Cleveland, Ohio	
4	Nixon Bros., Newcastle on Tyne, England	
4	Gilmor Wm., of Wm., Baltimore, Md	
5 4 6	Clates & Storvill Iron Works to Canal Chianne	
	Garrison A. & Co., Pittsburgh, Pa	
	Rules, Manufacturers of	
5 5 4	Chalfant Mfg. Co., 435 Arch, Philadelphia	
8	stanier rune and Level Co., 29 Chambers, N. Y 10 Sad I rons, Chalfant Mr. Co., 435 Arch, Philadelphia 6 Enterprise Mr. Co., Philadelphia 23 Sand and Emery Paper, Mokers of. Raeder, Adamson & Co., 720 Market, Philadelphia Sawa, Makers of.	
6 4 2	American Saw Co., Trenton, N. J	
4 4 4	Gerlach Peter & Co., Cleveland, Ohio	
04 40	Sand and Kunery Paper, Mokers of. Raeder, Adamson & Co., 720 Market, Philadelphia. Saws, Mokers of. American Saw Co., Trenton. N. J	
456	Richle dros., oth above Master, Phila	
0 0 0	Miles F. S., 205 Quarry, Phila	-
	Screw Cutting Machinery. Wiley & Russell Mg. Co., Greenfield. Mars , 35 Nersw Drivers. (Improved) Makers of	

Scythes. Beardaley Scythe Co., West W'asted, Conn.

Scythe Stones. Pike A. F., East Haverhill, N. H.

econd Hand Machinery. Forsaith, S. C. & Co., Manchester, N. H	Taps and Dies.
Sellers Wm. & Co., Phila, and to Liberty st., N. Y., 35	Tape and Dires. Carpenter J. M., Pawtucket. R. i
henrs (Sheep), Field Alfred & Co., 93 Chambers, N. Y	Nutrizio H., Philadelphia
Peck & Snyder, 124 Nassau, N. Y	Sundry Mig. Co. Buffalo, N. Y. Tin Piate: Importers of N. & G. Taylor Co. Philadelphia. Tin Piate: Manyacturers or. Monitor Tin Piate Works, 54 Cliff, N. Y. U. S. Iron and Tin Piate Co. Pittsburgh, Pa Tin Ware, Stambed and Japanned Block David, 65 Bayard, N. Y. Shepard Sidney & Co. Buffalo, N. Y. Tissue Paper, Anti-Tarnish Silver. Butler, Jr., H. V. & Co., 54 Reade, N. Y. Tee Calise. Ives, Woodruft & Co., Mount Carmel, Conn. Tools, Kaliroad and Vilning. Metcatf, Paul & Co., Pittsburgh, Pa Tools, Kaliroad and Vilning.
hot, &c. Sparks Thos. W., 121 Walnut, Philadelphia21	Tin Pinte, Manufacturers of
hovels, Spades and Scoops. Hussey. Binns & Co Pittsburgh, Pa	U. S. Iron and Tin Plate Co., Pittsburgh, Pa
hutters, Steel and Wood, Clark & Co., 162 W, 27th, N. Y. 8	Block David, 69 Bayard, N. Y.
melting Works.	Tissue Paper, Anti-Tarnish Silver.
melting Works. Philadelphia Smelting Co., 12th and Noble Sts., Philadelphia	Toe Calks.
Reeves Paul S., 760 South Broad, Phila	Tools, Railroad and Vining.
Vermont Snath Co., Springfield, Vt	Tools, Turpentine. Chater R. Dundas, 187 Pearl, N. Y
penking Tubes. Ostrander W. R., 19 Ann. N. Y	Trowels.
petter. Manning & Squier, 113 Liberty, N. Y	Bruce Geo. W. 1 Platt. New York. 2 Try Squares, Bevels, &cc. Makers of. Disston Henry & Sons. Phits. 3
Osgood F. & Co., Bergen Port, N. J	Tube Expanders. Dudgeon Richard. 24 Columbia, N. Y
Rogers Wm. & Son., Hartford, Ct	Tubing.
	Merchant & Co., 507 Market, Phila
Prings. Carey & Moen, 234 W. 29th, N. Y. Gautier Steel Co., Ld., Johnstown, Pa. 2228 Rowland Wm. & Harvey, Frankford, Phila. 36 team Boilers.	Morse Twist Drill & Mach. Co., N. Bectord, Mass. 9. Uphoisterers* tsocoles. Turner & Seymour Mfs. Co. 8: Reade, N. Y Valves, & San, Whiter and Sterm. Ludlow Valve Mfs. Co., Troy, N. Y Mohawk & Hudson Mfs. Co. Waterford, N. Y 3.
Babcock & Wilcox to Cortlandt N. V.	Valves, Gas, Water and Steam. Ludlow Valve Mfg. Co., Troy N. Y
team Hammers, &c., Makers of.	
team l'umps, &ce., Manufacturers of.	Berry Brothers, Detroit, Mich
Clayton Steam Pump Works, 14 and 16 Water st., Brooklyn, N. Y.	Miliers Falis Co., 74 Chambers, N. Y
Crane Bros. Mfg. Co., Chicago, Ill	Wheels, Railroad.
McGowan John II. & Co., Cincinnati, O. 35 Storer G. W., 132 N. 30, Philadelphia. 34	Wheelbarrows.
Rowland Wm. & Harvey, Frankford, Phila. 56 iream Bollers. Babeock & Wilcox, 50 Cortlandt. N. Y. 34 iream Hammers, &c., Makers of. Dudgeoa Richard, 2a Columbia. N. Y. 50 team Pumps, &c., Manufacturers of. Cameron A. S., East 23d, N. Y. 51 Carten Pumps, &c., Manufacturers of. Cameron A. S., East 23d, N. Y. 52 Cameron A. S., East 23d, N. Y. 53 Cranel Br. Mr. 50 Cranel Br. 51 Cranel Br. 51 Cranel Br. 52 Cranel Br. 53 Cranel Br. 54 Cranel Br. 55 Chester Steel Castings Co., Evelina, Phila, Pa. 55 Chester Steel Castings Co., Evelina, Phila, Pa. 55	Wheelbarrows. A. B. Cohu, 107 Water, N. Y. White Lend. Brooklyn White Lead Co., 89 Fearl, N. Y. Jewett John & Sons, 182 Front, N. Y.
Eureka Cast Steel Co., Chester, Pa	Colgate Robert & Co., 287 Pearl, N. Y
Pittsburgh Steel Casting Co., Pittsburgh, Pa. 25 teel Importers. Carr J. & Kiley, 82 John, N. Y. 28 Hobson Francis & Son, 97 John, N. Y. 28 MCOV & Co., 14 and 140 Duane, N. Y. 10 MSOS F. W., 86 John, N. Y. 26 Wolff R. H. & Co., 16 Cliff, N. Y. 25 Wolff R. H. & Co., 16 Cliff, N. Y. 25 teel (Mushet's Special.) Randall & Jones, 16 Oliver, Boston, Mass. 28 itseel Mushet's Special.)	Lewis John T. & Bros., 231 S. Front, Phila., Pa30
Carr J. & Riley, 82 John, N. Y. 28 Hobson Francis & Son, 97 John, N. Y. 28	Window Balances, Hugunin Robt. B. Wethersfield, Conn.
Moss F. W., so John, N. Y	Hugunin Robt. B Wethersfield, Conn. Window Springs, Makers of. Hammond W. S Lewisburry. Pa. Bire. Manufacturers of. Cary & Moen. 24 W. 20th. N. Y. Cleveland Rolling Mill Co., Cleveland, Ohio. 25 Gautier Steel Co., Ld., Johnstown, Pa. 28 # Gilbert & Bennett Mfg. Co., 27, Pearl, N. Y. Griswo'd, J. Wool, Troy, N. Y. Halgh. J. Lloyd, 81 20th, N. Y. Harrison Wire Co., St. Louis, Mo. Howard & Morse, 45 Fulton, N. Y. Prentias Geo. W. & Co., Holvoke, Mass. Trenton Iron Co., Trenton, N. J. Washburn & Moen Mfg. Co., Worcester, Mass. Wire Brawing Machinery.
Wolff R. H. & Co., 16 Cliff, N. Y.	Cary & Moen, 214 W. 20th, N. Y.
Randali & Jones, 10 Oliver, Boston, Mass	Gautier Steel Co., Ld., Johnstown, Pa 28 7
iteel Manufacturers. Albany & Rensselaer Iron & Steel Co., Troy, N. Y. 28	Griswo'd J. Wool, Troy, N. Y
Albany & Rensselaer Iron & Steel Co., Troy, N. Y. 28 Atha, Benjamin & Co., 241 Pearl, N. Y	Harrison Wire Co., St. Louis, Mo
Gautier Steel Co., Ld., Johnstown, Pa 2& 28 Midvale Steel Works, Nicetown, Phila Pa 2& 28	Prentiss Geo. W. & Co., Holyoke, Mass
Miller, Metcalf & Parkin, Pittsburgh	Washburn & Moen Mfg. Co., Worcester, Mass
Rowland Wm. & Harvey, Frankford, Phila 16 Sanderson Geo. & Co., 30 Gold, N. V.	Wire Drawing Machinery, Adt John, New Haven, Ct
Smith, Sutton & Co., Pittsburgh, Pa. 28 Singer, Nimick & Co., Pittsburgh, Pg. 6	Dufur & Co., 46 N. Howard st., Baltimore, Md
Cieveland Rolling Mill Co., Cleveland. 0. 28 Forest City Steel Co., Cleveland, Ohio. 28 Gautier Steel Co., Ld., Johnstown, Pa. 26, 38 Midvale Steel Works, Nicetown, Phills., Pa. 36 Miller, Metcalf & Parkin, Pittsburgh. 28 Foransylvania Steel Co., 28 S. 4th, Phile. 36 Rowland Wim. & Harvey, Frankford, Phila. 36 Sanderson Geo. & Co., 26 Sold. N. Y. 25 Smith, Sutton & Co., Pittsburgh, Pa. 26 Smith, Sutton & Co., Pittsburgh, Pa. 26 Smith, Sutton & Co., Pittsburgh, Pa. 36 Since Sylmick & Co., Pittsburgh, Pa. 36 Standard Steel Works, Philadelphila, Pa. 36 Standard Steel Works, Philadelphila, Pa. 37 The Edgar Thomson Steel Co., 52 Broadway, N. Y. 23 Wardlow S. & C., Sheffield, England. 38 steeling. 38	Oliver E., 105 and 108 Beekman st., N. Y
The Edgar Thomson Steel Co., 57 Broadway, N. Y. 27 Wardlow S. & C., Sheffield, England	American Wire Nail Co Covington, Ky
watulow S. & C., snemed, England decline. Bauer & Co., of Greenwch Ave., N. Y. Buter Spiral Springs, Manufacturers of, Cary & Moen, 24 W. 26th, N. Y. Chatillo, John & Sons, 91 and 92 Cliff, N. Y. Hocks and Dies. Armstrone F. Bridgspoort, Cl.	HP. Nail Co., Cleveland, Ohlo
Cary & Moen, 234 W. 29th, N. Y.	Wire Rope, Iron and Steel, Makers of. Broderick & Bascom, St. Louis, Mo
tocks and Dies.	Haigh J. Loyd, St John, N. Y. Hazard Mfg. Co., Wilkesbarre, Pa
Holroyd & Co., Waterford, N. Y	Wrenches, Manufacturers of
Hove Boards, Manufacturers of.	Coes A. G. & Co., Worcester, Mass
Chattllon John & Sons, 91 and 92 Cliff, N. Y. 11 thocks and Dies, Armstrong F., Bridgeport, Ct. 12 tolory of & Co., Waterford, N. Y. 32 Wiley & Russell Mfg. Co. Greenfield, Mass. 35 thove Hoards, Manufacturers of. Adams & Westlake Mfg. Co., Chicago. Ansona Brass and Copper Co., 19 and 21 Cliff. N. Y. 9 Shepard Sidney & Co., Buffalo, N. Y. 27 thove Trucks. Tucker Alarm Till Mfg. Co., Indianapolis, Ind. 10 Tacks.	Wire Brawing Haren, etc. Wire Goods, Manufacturers of, Dufur & Co., 40 N. Howard 8t., Baltimore, Md., Gilbert & Hennett Mix, Co., 27; Fearl, N. Y., Oliver E., 105 and 108 Bockman 8t., N. Y., Wire Nails, American Wire Nail Co., Covington, Ky., Dund A. & Sons, Taunton, Mass. HE, Nail Co., Cleveland, Ohlo., Wire Rope, Iron and Streel, Makers of, Broderick & Bascom, 8t. Louis, Mo., Haigh J. Loyd, 8t John, N. Y., Hazard Mix, Co., Wikesberre, Pa., Roebling's John A. Sons, Trenton, N. J. Wrenches, Manufacturers of, Bemis & Call Hdw. & Tool Co., Springfield, Mass. 25; 8; Coes A. Q. & Co., Worcester, Mass. Coes I. & Co., Worcester, Mass. Sirard Wrench Mg. Co., Girard, Pa., Van Wagoner & Williams, 8t Beckman, N. Y., Yood Working Muchinery, Forsaith, S. C. & Co., Manchester, N. H.,
Tucker Alarm Till Mfg. Co., Indianapolis, Ind.	Wood Working Machinery.
American Tack Co., Fairhaven, Mass 8	Wringers. Alexander T. J., Boston, Mass. Metropolitan Washing Machine Co., 52 Cortianat,
American Tack Co., Fairhaven, Mass	N. Y
Grundy Geo. C. 16s Greenwich " Y 10	Peerless Wringer Co., Cincinnati, O
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ZUCKER & LEVETT, NICKEL PLATERS' SUPPLIES.

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TOOL HANDLES AND SEAT STICKS FOR CARRIAGES, &c. Also all kinds of Enameled Goods made of wood, such as Drop Knobs, Furniture Knobs, Organ Stops, Stude Handles, &c., &c. Also sole manufacturer of the Fatent ANTI-NERVOUS TRIANGULAR FENHOLIER. Send for Catalogue and Price List before purchasing. F. R. EMMONS, Agent, 132 Image St., New York. Manufactory at BURLINGTON, Conn., U. S. A.

EMPIRE FORGES IMPROVED without Belts, Bellows, Crn & Pins, Dend Certers of Pack Motion. Scan for circular. EMPIRE PORTABLE FORGE CO. COHOES, N. Y.

METALS.

NEW YORK WHOLESALE PRICES, NOVEMBER 25, 1879.

fR(N, →DUTT: Bars, 1 to 1½c. ₹ №; Sheet, B Hoop and Scroll, 1¼ to 1¾c. № b; provided, that n of the above Iron shall pay a less rate of duty tha per cent. Plg, ¾ ton; Colibbed Sheet, 3c. ₹ Wrought Scrap, \$5 ♥ ton: Cast Scrap, \$5 per Railroad rec. ₹ 100 № B. Boller ann Plate; 1½c. ₹ 1	and 15 (1.1.2) 1.1.2 (1.1.2) 1.1.3 (1.1.2) 1.1.3 (1.1.2) 1.1.3 (1.1.2) 1.1.3 (1.1.2) 1.1.4 (1.1.2) 1.1.5 (1.1.2) 1
Frought Scrap, \$3 \$ ton: Cast Scrap, \$5 per Railroad 700. \$100 bs. Boiler and Plate, 1/40. \$1	D. STEEL. DUTY: Bars, Ingots, Sheets and Coils valued at 7 cents \$ B., or under, 24% cents; over, cents, and not above 11, 2 cents \$ B: over 11, 3% cents
Pig iron - AMERICAN Nominal Pton 827.00 @	STEEL.—DUTY: Bars, Ingots, Sheets and Coiss valued at 7 cents # B., or under, 24/2 cents; over, cents, and not above 11, genus # B., very 11, 5/2 cents # B. and 10 % ad val. Railway Bars, 1/2 cents # B. for any Bars, 11 part Steel, 1 cent # B. for any Bars, 11 part Steel, 1 cent # B. for any Bars, 10 part Steel, 2 cent # B
Scotten	according to the contract of t
Rails	5.00 Tire 5.00 Machinery (round and square). 5.00 File 8.00 Machinery (round and square). 5.00 Machinery (round and squar
Wrought Scrap, from vard. # ton. nom. 30.00 & 3: flar Iron, from Store. Common Iron:	8aw Plate, mill and mulay
% to 2 in. round and square	Best Cast W B 15\square Extra Cast W B 16\square Round Machinery, Cast W B 16\square
Refined Iron: 4 to 5 in. round and square. 4 to 5 in. round and square. 5 to 6 in. X% to 1 in. 6 to 5 in. 1 to 6 in. X% and 4-16. 6 to 8 Rods - % and 11-10 round and square 7 to 8 to 8 Bands - 1 to 6 Xx+16 to No. 12. 7 to 8 to 8 Norway Nail Rods. 7 to 8 to	Swaged, Cast # h 180 Best Double Shoar # h 185/20 Bilister, 1st quality # h 130
Bands—r to 6x3-r6 to No. 12	German Steet, pest. # 110 See German Steet, pest. # 2 100 " 2d quality # 2 100 Sheet Cast Steet, at quality # 2 100
Common	English Steet,— Best Cast # 2 156c Extra Cast # 2 156c Extra Cast # 2 166c Extra Cast # 2 166c Extra Cast # 2 166c Found Machinery, Cast # 2 166c Swaged, Cast # 2 166c German Steet, Feet Guality # 2 166c " adquality # 2 166c Sheet Cast Steet, ist quality # 2 166c Sheet Cast Steet, ist quality # 2 166c Sheet Cast Steet, ist quality # 2 166c ANTIMONY # 2 166c ANTIMONY # 2 166c
31 to 34. B 940 6	LEAD.—DUTY Pig \$3 \$100 Bs; old Lead, 1)40 B \$100 Pipe and Sheet, 240 \$ B. American
Galvanized, 10 10 20, H. H. # h 100; 2d qual. # h 9 21 to 24, # h 110; # h 12; 25 to 20, # h 12; "# h 1	Bar
Patent Planished D A. 110; B. 1	22 Shoet Drop 7\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\
American Cold Rolled	BABBITT METAL. N. P. U
UDPPER Dryv: Pig, Sar and Ingo t, se; OldCo per 40 %; Manufactured (including all article which Copper is a component of chief value), 45 % valorem. American Ingot	
valorem. — B See Trade Report Americal Ingot. — B See Trade Report Set Americal Ingot. BLAILERS' COFFER. BOLTS, &c. Braziers' Copper, ordinary sizes, 160z. per sq. ft., and over per lb. For timing both sides, double the above amount	Banca. # B 270 Braits # B 34
For tinning both sides, double the above amount Brasiers' Copper, ordinary sizes, 15 oz. and over 12 oz., # 50, ft	I C 10X14 } Prime Charcoal
For tinning both sides, double the above amount Franiers' Copper, ordinary sizes, to os. and over 13 os., \$ 44, \$ 5. Brasiers Copper 10 os and 13 os., \$ 30, \$ 1. Circles less than \$4\$ is. In diameter \$ 30, \$ 40, \$ 1. Figure 1 and Faster 1 sheets \$ 1. Anomosive Fire Box Sheets \$ 1. Both Copper Bottoms .	10 C 1230) C 12312 C 1
figurent and Pattern Sheets. # 2 3 Lowerster Fire Box Sheets. # 2 5 Sheathing Copper, over 13 oz. # sq. ft. # 2 5	90 D C 12/6X17 7.74 @8.00 D X 12/6X17 9.75 @10.00 D X 12/6X17 9.75 @10.00 For each additional X add
Bolt Copper . ** b 3 Copper Bottoms. ** b 3 No Copper is Sheathing except 14748 inches and no to exceed 34 oz. to the sq. it.	Hest, ad quality, Ordinary,
TENNER. 143.4. F sheet (All other size Sheets, 2/4c, per square foot. O'SELL' SPATE ! SPLANSHED COPPER.—Net.) V /
O'NEILL' SPATE ? SPLANSHED COPPER.—Net. 14 and 16 oz. and heavier. P b 370 By the case. P b 26	8.6 1 C 12X12
O'NEILL' SPATE NIPLAMBRIED COFTER.—Net. 14 and 16 os. and heavier. \$\mathbb{P}\$ 370 By the case. \$\mathbb{P}\$ 27 os. and lighter \$\mathbb{P}\$ 400 \$\mathbb{P}\$ 400 \$\mathbb{P}\$ \$\mathbb{P}\$ 31 7 in., 14x5. \$\mathbb{E}\$ in., 14x6. \$\mathbb{E}\$ 16s. and heavier. \$\mathbb{P}\$ 390 By the case. \$\mathbb{P}\$ 34 (And all sizes not over 20 in. wide.)	C 14X20 T. W & 7.75 7.25 & 7.45 7.45
14 and 16 Os. and heavier 9 300. 14 and 16 os. and heavier 9 300. 14 and 16 os. and heavier 9 3 4	SOLDER
Brass. Brass. Brass. Brown & Sharp's Gauge the Standard for Metal; Oil	no bs. American cash
Brown & Sharp's Gauge the Standard for Metal; On English Gauge the Standard for Wire. Blass saviyacrosses' raice Let.—dis nominal. July 1, 304. Cash prices for Roll and Sheet Brass. For less quan	Lehign, on spot
All Was not thinner than to No. 26, wider than a to	Open
not wider than 1, in All Nos. to No. 28, inclusive, and wideha over 14 to 20 in, inclusive. All Nos. to No. 28, inclusive, and widths over 20 to	Paper Stock, Old Metals, &c
to in., inclusive	Canyas linen (Dealer's Selling Price.) 9 4)6
chaive. B advance on each 30. solve the 25 by a, 16 clusive. All Brass thinner than No. 5 is Platers' Brass. at. 48 Broots sage, and all sheets cut to particular sizes a solve the solve than 1 in. 32 Frinters' Rules. Sheets where than 50 in. and under 40 in	White cotion, new
Printers' Kules. Sheets wider than 30 in. and under 40 in	No. 2. 6. 3 Seconds
1 10 00 14 30, 11401	Jute Butts
LOW BRASS.	Waste paper and scrape
Gilding Metal, 8c # n more than Righ Bress. (In Bars. 430 Platers' or Gold Metal Sawed	Hard White Shavings, No. 1
FOR SLITTING, Metal in width 2 in. to % in. to No. 28, inclusive, 10. P	Mixed Shavings, part white
Metal, in width 2 in to 2 in., thinner than No. 28, 20. We had avance. Metal, in width 2 in to 1/2 thinner than No. 28, 30 W h	" Heavy
advanc Metal, in width 14 in. to 14, inclusive, not thinner than No. 28, 20. W B advance. Metal, in width 14 in. to 14 thinner than No. 28, 50. 48	Newspapers
B advance. B advance. Hetal, 14 in. in width and less, icc. B advance. any of the above widths cut to particular lengths, add	Binders' Board Cuttings
GERMAN SILVER MARKET METAL AND WIRE. Market Metal. Wire.	Straw Roard Cuttings. 7: 6 Woolen Tailor Clips. 1: 6 Satinet Side 24 Copper, heavy. 17 6
64 44	Veltow Mefal
German Silver Sheets over 1210, wide and weighing	Brass, light
nore than to Bs. \$2.00 d.P. Advance 2c. for each additional inch in width above in, and 2c. V b on each No. thinner than Nos. 36 to , inclusive All German Silver thinner than No. 36 is Platers, at	Old Lead, coliu
All German Silver thinner than No. 36 is Platers, at own a additional. German Silver Scrap one-half less than net price of in. Market Metal. German Silver Turnings, Filings and Chips. Half the write of Scrap.	Wrought Iron per ton \$27 50 @ Machinery Iron per ton \$20.00 @ Light Iron per ton 1900 @ Stove Plate per ton 17.00 @
BRASS AND COPPER WIRE. Gild'g and High Brass. Low Brass. Copper.	Grate barsber ton 0.53
0.0 to 20	Paints, Oils, &c.
0.25	Paints. Plack Larnn Coach Painters.
0.27 443 .47 .53 0.28 47 .51 .48 0.2050 .64 .61 0.3053 .52 .57	Black Lamp, Coach Painters.
0.31	Hack Paint, in oil. kegs, so assi'd cans, 10 Plus, Prussian, fair to best. 40 Sec. 10 Plus, Prussian, fair to best. 40 Sec. 10 Plus, Prussian, fair to best. 50 Sec. 10 Plus Proven, Standards 50 Prov
Spring Wire 2c # 3 advance. Flat, Square and Half Round Wire 4c # 3 advance a Round Wire.	Ultramarine 18 G oc Pi Brown, Spanish 14c Van Dyke 10312c F
Fancy Wire not less than 100 # m advance of Round Vire, Brass Rods, No. 8 and larger not less than 2 feet	" Ultramarine 18 4 50 P Provn. Spanish 1540 " Van Dyke 0 combination price In Green, Chrome 14 6 6 2 30 " Paris 10 01 2000 450 best, 330 " Paris 10 01 300 0 500 18 30 " Por San Office In Iron Paint, Bright Red 9 5 5 500 P Brown Brown P 5 500 P
ngths, 39c. Wire straightened and cut, smaller than No. 8, and of less than 2 feet lengths, 38c. Wire and Rods less than 2 feet lengths, special rates Twelve cents per B extra for spooling on 1 B spools-	" in oil " 300; 450 Bi Iron Paint, Bright Red B 246 gr Red B 25 gar
Tweive cents per h extra for spooling on 1 h spools- miscellaneous. ommon Plain Brass Pail Ears	Brown # h 146 Pc Purple. # h 3c Ground in Oil, Bright Red # h 3d Ground in Oil, Bright Red # h 546c th
rats Door Rall	Purple
idding. 130 ing. 150 irrings, Filings and Chips half the price of Scrap, Terms—Net cash. Interest to be added after thirty	Red Lead, American
	tt tt te de cit
ain to No. 20 inclusive above 34 in. to 3 in	Sienna, American, Raw
Number. s. 24, 25, 26, four cents advance on List for each Number. sove No. 26, special rates. aln, 34 inch	Umber, Barnt 4 @ 5c
ain 14 inch	"Indian dry
Prices. Incy Tubing to No. 20	Trieste Lioc American, Common Lioc White Lead, American, pure dry 6 to 7c
to No. 20	White, Paris, English, prime in bbis. 2 % 25gc mc Tellow Ochre, French 81.75 in oilasst'd caps, 11c; kegs, 5c
under 2 feet. Mandrel Drawn Tubes under % in., 2; cents per pound advance. ZINC TUBING.—net.	Vermont in casks, 1140
ain. 22 nbcy. 35 often aud Extra Patterns. 31	Yellow Chrome in casks, 1460 Yellow Chrome 1 6 700 In oil 1 6 700 Zinc White, American No. 1, dry. 8 6 100 No. 1, in oil 90 French Parisi 8 6 100 In oil 6 6 00
ses en	em equition (m 166 K

Add to 2 cents % even to control under 5 feet.

Ail Mandrel Drawn Tubes under % in., 25 cents per pound advance.

ZINC TUBING.—net.

Sancy Sale Extra Patterns

		-				- 1
8 10 %		Oils.				
	Linseed, Raw, in c	asks and bbls.	1	F gal.	40 & 86c	310
	" Boiled.			" 5	or a gre	
I. Y	Bleached Whale	***********			ga1. 000	
	" Flenham				gut. 1.1	2
	Stanal			**** ***	. 553	5
	Linseed, Raw, in c Boiled. Bleached Whale. Sperm Elephan Signal. Prime Lard No.t				600	
I.S	No.t				440	2
ets and Cous	West Virginia	************			80 @ 240	1
cents; over,	Drilling.		******		400	
ver 11, 3% cent	Miners' Oll				re to 450	
n Provided	Fish Oil, pressed				400	
cents; over, over 11, 3½ cents over 11, 3½ cents over 11, 3½ cents over 12, 13 over 12, 13 over 12, 13 over 12, 13 over 12, 13 over 11, 3½ cents over 12, 12, 12, 12, 12, 12, 12, 12, 12, 12,	Neatsfoot				750	11
hatever form or	Tallow				043	
	Machinery				400	
	Prime Lard No.r West Virginia Drilling Empire Cylinder Miners' Oil Fish Oil, pressed Neatsfoot Tallow Machinery Engine					
		Sundries.				
	Asph atum				08	1 .
8t	Benzine			8	; al. :60	
90	Chaik					
	Block			valer.	Fac C	
8340	Frostings	п	t Cana	Tolde!	M.O. GCH	
9 @ 140	Glue, White				13 08 41	1
IIC	" Sheet				JE	1
	Glaziers' Points, Zi	D.C				i
# B 15160	Gum, Copal	*************			380	1
В В 1634с	" Shellac, Engli	ah			a8c	i
# 10 IOC	41 41	dark			430	1
W B 180	Litharge. English	*			D 8 20	1
# h 151/60	Mineral Wool			H ID 134	@ 140	
W IN 111C	Pumic Stone, select	ed Lumps			-4 10 10	1
W 90 TOO	Putty in bladders	464			3 0	
# 10 9C	in bulk				2360	
TO 90 14120	Rotten Stone, soft,	English	*******		** C	1
D 90 D 15160 D 14160	Asphatum Bengine Chaik " Block Dryer, Patent, Am' Frostings Glue, White " Sheet. Glaziers' Points, Zi Gum, Copai. " Bheilac, Easyl Litharge. English Mineral Wool. Pumic Stone, select " powde Putty, in bladders. " in bulk Spirita Turpentine. Whiting Spanish.		*******		940	1
	As streeting substitution					
						1
		Glass.				
ead. i%o b w		Glass.				11
ead. i%o b w	FREN	CH WINDOW GI	ASS.			11
ead, 1140 B w	FREN	Ginss.	ASS.			
ead, 1560 b w	Prices ou	CH WINDOW OF	A88. Of 30 fee	st.		11
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ead, 1360 % w , rac , c dis 10 % , rac, dis 10 % , so, dis 10 % k, 836, dis 10 %	Prices ou Single Sizes.	Ginss. CH WINDOW GI Frent per box Thick.—Discort	A88. Of 30 fee	st.	ş th	11
ead, 1560 b w	Prices ou Single Sizes.	Ginss. CH WINDOW GI Frent per box Thick.—Discort	of 50 fee	st.	i th	11
	Prices ou Single Sizes.	Ginss. CH WINDOW GI Frent per box Thick.—Discort	ASS. Of 30 fee	3d. 8 6.25 7.40	1 th	HR
	Prices ou Single Sizes.	Ginss. CH WINDOW GI Frent per box Thick.—Discort	2d. 8 6.75 8.30 10.50	3d. 8 6.25 7.50 9.75	1 th	11
ead, 1)4c b w	Prices ou Single Sizes.	Ginss. CH WINDOW GI Frent per box Thick.—Discort	2d. 8 6.75 8.30 10.50 11.40	3d. 8 6.25 7.50 9.76 10.00	i th	HR
ead, 1140 b w	Prices ou Single Sizes.	Ginss. CH WINDOW GI Frent per box Thick.—Discort	2d. 8 6.75 8.30 10.50	3d. 8 6.25 7.40 9.74 10.00 11.25	1 th	HR
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.ead. 1/50 b w	FREN Prices ess Single Sizes. 6 x 8 to 10 x 15 12 x 14 to 15 x 24 15 x 25 to 20 x 30 15 x 25 to 20 x 30 25 x 26 to 30 x 4 x 30 26 x 36 to 30 x 4 26 x 36 to 30 x 50 27 x 36 to 30 x 50 28 x 36 x 3	Ginss. Gi	## 50 feel int 50	3d. 8 6.25 7.70 9.75 10.00 11.75 13.00 13.00 15.00	\$ th \$ 4.75 7.00 8.75	U: P(
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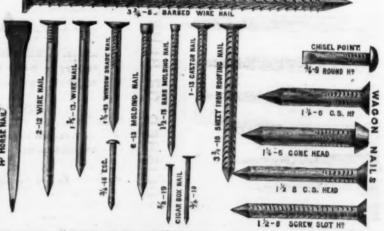
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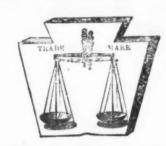
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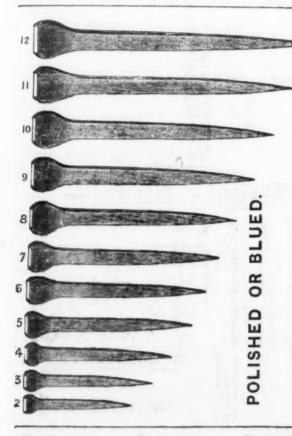
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New York Wholesale Prices, November 25, 1879.

	W TULK V	, ,,,,,,,	Julio 1	11000, 11	-	-0, 10	7101
HARDWARE.	Carriage and Tire, Common Philadelphia, 1	dis 7045; new list. dis 80 @ 65; rndis 6545;	. Racking	dis gr	"Bee" Gimlets	dia co ff	Knives. Ames' Butcher Knives
A rvils. P b oc dis 20 5	Shelton's	(oia list, dis 65	Ale and Beer	dis 50	"Diamond Gimlets	dis 40 %	Moran's Shoe and Bread Knives Hay and Straw— Wadswortn's"
Wriado's		list, Nov 1, '79, dis 65	Board and Box Increase Wilson's Selsor's Pat	dis ac	et ' Ives'	dis 50 %	Carriage (Jap'd See. W gross)
Augers and Bits.	" R. B. & W Stove—American Screw Co.'s	dis 70	American (Enterprise French Steel		Glue Peta. Tinned and Enameled Family, Howe's "Eureka" F. & C.'s "Handy	dis 40 %	Base-Common
Conn. Valley Mfg. Co	** R. B. & W	dis 50	Per dos \$15.00	er Pail and Lantern.	" L. F. & C.'s "Handy	dis 40 %	Door, Mineral
Humphrevsville Mfg. Co dis 40& to % Secher (French, Swift & Co)	" R. B. & W Machine, List of July 15, '79 Solt Ends "	dis 55		Ala calica	Grindstone Fixtures. Sargent's Patent	dis 60&10 %	Furniture, Plain
Sobles Mg. Co.	Borax		Bemis & Call Co.'s D	dis 50&10 lividers dis 60&20 ompasses & Lailipers dis 55	Gun Wads. U. M. C. B. E. 11 up.		Hemacite Picture
Vasson's Patentdis 50 %	Boring Machines. Upright	86.75dls 40 5	Cook's	dis cost o ompasses & Lailpers. dis cos ompasses & Lailpers. dis cos ouble dis cost dis cost dis cost o dis cost	9 & 10	2.00 dis 584 %	adles.
C'ook's, Ives'	inell's, no Augers	3.50 net.	Excelsior. Miller's Patent	dis 50	Tlammers.		Monroe's Patent
6 C. S. Bits	BracesBarber's Patent	dis 40&55	Corkscrews.—H	umason & Bdis 15 @ 20 ;	6 Chenef's, List January, '79	dis 25 %	Tubular No. o, \$8.65; ? With Guards, Hurricane No 5, # doz \$ Brady's Patent.
Patent Solid Headdis 30 % Russell Jennings' Auger. Dowel, Machine-	Vison afg. Co	dis 10 9	Wadsworth's	od Cutters.—Bradley'sdis 10	Warner & Noble's	1.50 and 1.75.dis 25&10 %	Brady's Patent. Atna. Yankee.
Dowel and Hand-Rail Bitsdis 1021021025 Russell Jennings' Augersdis 1644210210210	Nobie's Patent	dls 40&5 9	Iron Steel Points	PD 7	Tralessa.	Alara	Police. Smali, \$7.50; Med., \$9.00; Large.
Russell Jennings' Car and Machine Bits, Boring- Machine and Millwrights' Augers dis 25&10&10&10 %	Brackets, Spelf (Sargent's) Fa	dis 50 %	%, %, % in., \$1.80 2.00, Curling Tongs		Horse and Cattle Ties, Covert's Hand Cuffs and Leg Iron	dis 40 %	Lemon Squeezers.
Imitation Jenning's bits	Bright Wire Goods list of Jul Bull Rings,—Union Nut Co	ly 8, 1879dls 30&10 %	Fitch's (List of No. 24	o. \$1)dis 40 9	Towaria Leg Irons,	\$25 \$ dos } dis 10 \$	Eureka, Tinned
Lewis' Single Twist Bits'	Sargent's.	dis 60&10 \$	Lawrence, with deta	chable Mane Combdis 33\6 9	Nos o 1 3	3 4 dis soltion	Lemen Squeezers. Porcelain Lined
" Ives	dumacon Backley & Co.'s (low list	i) dis 60 g	Curtain Pins.—8 White Enamel	ilvered Glass dis 15 %	Roggin's Latches Bronzed Iron Drop Latches Jap'd Store Door Handles—Nuts	Re Her Diete Com Boo Hee	87.90 Mason's Linen Wire Clothes. Gaivanized
Hollow Augers Ives'\$20 and \$30 .dis 33½ % French Swift & Co	Vrought Brass	die 45 %	Cutlery. Meriden Cutlery Co. (Am. Miller Bro.'s Cut	Table)	no Plate, 66c. Barn Door. Wrought Chest. Surface Chest, Sargent's list	r dos \$4.00, dis 60&20 \$	Locks and Latches. Cabinet—Eagle Reduction in
Douglas	COMMON CAST, NOT DE	RILLED.	F. W. Rogers & Son, A Naugatuck Cutlery Co	Pocket			Locks and Latches. Jabinet—Eagle
" Stearns' Adjust., F doz \$48—dis 20&10 %	ast Joint, Narrow	dis 408 to8 to 8	Dog Collars.	dis 20 %	Boynton's Pat. Loop Saw Handle	dis 40&10 %	Langstroth & Crane's List Jan. 1,'77.
" Univ'sal Expansive, each \$4.50—dis 10 % Gimlet Bits	baort Narrow and Broad DRILLED AND WIR	ED.	Door blowings		Brad Awi	gross \$4.00, dis 25&20 \$	Flat Key
" Diamond	Fast joint, Narrow Broad	dia 40&10&10 %	Gray's " Bee Rod		Apple state assorted large,	5.00 5.00	Yale Lock Co., Flat key "Shepardson" or "U. S." "Felter" or "American"
Double Cut Gimlet Pits Shepardson'sdis 40 % "	Japanned with Acorps	dis 50&10 %	Gem (Coil)— No. 1, Large, Japana No. 2, Medium,	ned	acente and a second	5.00 dis 5.00 25&10 \$	Kound Key, No. 1 to 6. Flat Key. No. 5 to 13 Barnes & Deliz, Flat Key. Yale Lock Co., Flat hey. "Shepardson" or "U. S." "Felfer" or "American" Plate. F. Many's "Extension Cylinder". Branferd. Norwalk.
Douglass'dis oosto % Douglass'dis 40 % Very dis 40 %	Parifament Butts	dis 50&10 %	Challenge (Coll)— Japanned	Nos. 9 7 6 5 50 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Framing assorted, File, assorted, F gross. Auger, assorted, F gross. Patent Auger, Ivea Douglass' Swan'z.		Branferd
Norse's Bit Stock Drill, List of May 15, 78dis 25 % L'Hczamedieu's Ship Augersdis 15 %	Acores	dis 50%10 %	Galvanized Nickeled	# dos 550 4.00 4.50 dis 30 5	Hangers.	F set \$1, dis 20&10 \$	Norwich P. & F. Corbin. Russeit & Erwin. (List August, 18) Mallory. Wheeler & Co. (List August, 18 Reading Nardware Co.
Watrous Ship Augersdis 15 %		Tips dis 44 tre %	Japanned	Nos. 1 2 3 \$\psi\ \doz\	Novelty	dis 55&10 %	Mailory, Wheeler & Co. (List August, 18 Reading Hardware Co. Trenton Lock Co
Awi Hasts. Sawing, Brass Ferrule\$3.50 \$ gross—dis 40&10 \$ Peg "	Past Joint Narrew	diarra	No. 4, ("Shoo Fly") Ser	een door size \(\psi\) doz \$1.75 \(\psi\)	Challenge. Climax (Anti-Friction). Sterling Improved (Anti-Friction Cheritree.)dis 63820 %	Mailory, Wneeler & Co at Wm. Wilcox & Co at Yale Look Mfg. Co.'s "Stand! Romer's.
P tent Sewing, Short	Broad	dis 50 %	No. 7. Large. Sabin's Lever . No. 1.		Cheritree Kidder's	dis 40&10 %	Romer's. Conestoya J. H. h. e. Williams. Barnes & Dietz. Mallets,—Hickory and Lignumvite.
Peg Plain Top\$10.00 \$ gross—dis 40&10 \$	Table Butts, Back Flaps, &c Inside Blind, Regular	dis 55 %	Sabin's Crown, Philadelphin		Harness Snaps. Henshaw'sList of 1½ changed Judd's Fitch's (Bristol) Hotchkiss' Andrews'		
Awls, Brad Sets, &c. Awls Sewing, Common F gross \$1.35—dis 25 %	Loose Pin, Wrt	dis 60 %	Cowell'sNo. 1, 8 Rubber, complete	128.00; No. 2, \$25.00 \(\psi \) doz, dis 40 \(\psi \) \(\psi \) doz \(\psi \)2,00, net	Hotchkiss'	dia folkto 4	#leat Cutters, Dixon's (P. S. & W.) Nos. 1 2 3 # doz. \$14.00 17.00 19.00
" Sewing, Best F gross 1.40—dis 10 % " Shouldered Peg F gross 2.25—dis 15 %	Spring Hinges · American Spiral Spring Butt Co.,	Jap'ddis 25 %	Crossman a No. Hives.	Ale Cobra C	Covert	dia so f	
Patent Peg	Gem Spiral Spring Butts, Japanne	ddis 25 %	Nobles Wfg. Co Bradley's Adjustable Handie	dis 15 \$dis 25 \$dis 25 \$dis 20 \$dis 70 \$dis 6:#4 \$	isatcheta. Isalah Blood. Shingiing, Nos. 1 2 3.	08 \$7.25 \$8.00 \$8.75 02 2.75 \$80 0.25	Perry's Nos. J 2 3 4 48"rd Each83.00 4.00 5.00 11.00 15.00 Woodruff's (P. S. & W.)NCS. 100 18.00 # doz .814.00 18.00
# Handled Brad	Geer's Single and Double Acting Sabin Mfg. Co.'s Double Acting	dis 25 %	Drills and Drui Se	dis 70 s	Lathing. Nos. 1 2 3 # d Hunt's Shingling, Nos. 1 2 3 # d	og 87.25 83.00 88.75	Hales'Nos. 12 2.81c.00 78. 44.46 46.60. 22.60. 75. 65.60. 22.60. 65.60. 22.60. 66.60. 22.60. 2
Frad Sets, Alken's	Union Spiral Spring, Japanned "Ornamental.	dia 25 %	Blacksmiths' Reif Feed Breast, P. S & W	Locks	Claw, Nos. 1 2 3 \$\psi\$ d. Lathing, Nos. 1 2 3 \$\psi\$ d. Hurd's Shingsing, Nos. 1 2 3 \$\psi\$ d.	OE 7.75 8.50 9.25 OE 7.50 8.25 9.00	Each. \$50.00 75.00 80.00 225.00 American. Nos
Staniey's Excelsior. No. 1, \$9.00 dis 20210 %	Union Spring Hinge Co.'s	dis 25 %	Breast, Wilson's Miller's Faiis	dis 20 3	Shingting, Nos. 1 2 3	ME 88.00 85 50 80.00 ME 0.00 850 0.00 ME	Each Stoo 7.00 Ec.00 Stoo Stoo Stoo Stoo Stoo Stoo Stoo St
" No. 3, 7.80dis 2c&toff	Union Mfg. Co		" Ingernoll's	dia ac &	M. H. Jones & Co. Shingling, Nos. 1 2 3 # d Claw, Nos. 1 2 3 # d Lathing, Nos. 1 2 3 # d	02 88.00 88.50 89.00 5 02 9.00 9.50 20.00 5	Mincing Knives. Am., 1 blade, \$12: 2 blades, \$21; 3 blade gross. Lathron's.
H. H. Jones & Co\$8.00 \$8.00 \$0.00 \$0 dor net.	Slind Butts, Parker Palmer Seymour	dis 50&10 \$	Whitney's Weston's Moore's Triple	dis 25 \$ 6 Action	Shingling Nos or 22 W dog 8	7 50 88 on 88 50 80 m	Lathrop'sper dos Smith'sper dos Molasses tintes.
A xies. Common (Guy C. Hotchkiss, Field & Co.) \$ 5 5/4	Shepard's "Double Nos. 1 & 4	Socialis solt to C	Automatic Boring Too	lseach #2.7%, dis 90 %	Claw, Nos. 123 # Coz Lathing, Nos. 123 # doz Broad, Nos. 123 # doz Nos. 123 # doz	0.00 0.50 10.00 8.00 8.50 9.00 9.00 12.00 14.00	Molasses Gates, Stebins Pattern. Genuine Tinned Ends. Chase's Hard Metal.
olid Collar, Case Hardened, Chilled Box # 15 &c Axle Grease. — Frazer's # 25 &c	" Lull & Porter	dis 66%&10 %	Drill Chucks,-Mo	rae's Beach Patent dis 30 % '' Adjusteach \$10,00, dis 30 %	Collins	oz \$0.00 \$0.50 \$7.00	Bush's
Balancesdis 20210 \$	" Clark's, Nos. 1, 2, 5, 40 an Shepard', "Noiseless.		Egg Beaters.		Lathing, Nos. 1 2 3 de	8 6.00 6.50 7.00	Natis. Sec Nuts and Washers. Square Nuts. Hexagon Nuts. Washers.
Bella. land, Light Brassdis. 70 %	Clark's, Nos. 1, 2, 5, 40 ar Shepard's "Noiseless, 40 & 61 Sargent's No. 12	dis 50&10 %	Family	per gross \$33; per dos., \$5.00 net	Hay Knives. "Lightning" Wadsworth 2.	o dos 330.00 net	lexagon Nuts
Extra Heavy	dotchkiss'	low list dis 10 %	Mill E. Buckets, heavy,	# 100 \$15.00 & \$54.00, net # 100 \$15.00 & \$54.00, net to inches (Duc's Improved) # doz \$5.60 @ \$10.30, net ent) 12 to 17, \$12.00 @ \$20.00net	Hinges. Gato, Western. 9 (los \$10.00, dis 60&10 % T	Nut Crackers Table (Humason & Beckley Mfg. Co.) Rake's Pattern. Turner & Seymour Mfg. Co Askura
Globe (Cone's Patent)	Butchers' Cleavers. Iumsson & Beckley Mfg. Co	1 #27.46. dis 53&10 %	Storehouse, (Due's Pate Emery and Emery Genuine Chester—Regy	ent) 12 to 17, \$12.00 @ \$10.00net Paper. slar Nos	Gate, Clark's Ng. 1	dos \$6.00. dia 45 %	() akum. Best. 7. S. Navy.
' Yankee	Fradley's	dis 25 %	" Flou	r and FF W B	" Common Sense " Sevmour's	dis solve s	Ottom - Zine and itin
rank Taylor's	dan Openers,		Wellington Mills, Grain	Lib. cans	Rolled Bind Hinges Rolled Plate Rolled Raised Wrought Strap and 1, itst Dec. 20, Plate Hinges (8, to & 12 In. 80, 84 "Providence "(over 21 In. 80, 84 Strap	dis 55&10 \$ O	rass and Copper. Jimsted's. Sroughton's falicable (Hammer's) dos Thor's Parent or 'Paragon," Zinc
Cone's dis to s Connel's dis societ s Ver. Sargent's, new list Dec., '78. dis 60&10 \$	Massenger's Comet. merican supplex yuplex younger coole o 4, French o 5, Iron Handie uureka ardine Soissors prague	dor \$2.00. dis 25 % dor \$2.00. dis 75 % or 250. dis 15@20 %	Hampden Emery Grain Flour B. & A. Emery Paper	r	Wrought Strap and T, ilst Dec. 20, Plate Hinges 18, 10 & 12 in. \$0.85 "Providence" over 12 in. \$4.55	W 100 Bdis 10 S	rior's Parent or 'Paragon," Zinc
Taylor's Bronze or Plated Lever	oole	dos \$3.75, dis 40 % dos \$3.75, dis 40 % dos \$3.25, dis 60 %	Knameled and Tin	ned Ware.	Strap (14to 36 in., 85.5 Heavy Welded Hook (8 to 12 in., 8	5 # 100 m 5 dis 10 %	Pencils. Faber's Carpentens'
R. & E. M. Co.'s	ardine Scissor	doz \$2.50, dis 10 \$ doz \$7.00, dis 55 \$			Screw Hook and Eve. 14 in. & up,	1 in., 100 B	Pencils,
· Western	Caps-Percussion, ¥ 1000.		Brass	dis 24 %	Hees,—Solid Shank, C. S	160 N	Packing, Steam.
Western dis zoku 5 G	CapsPercassion, # 1000. M. C., F. C. trimmed F. L. ground D. & S. B. ouble Waterproof, in 1-10'8		Brass Thread		Roes,—Solid Shank, C. S Socket Riveted Shank Grub	# dos 5.75 dis 15 \$ B	Picture Nails, trass Head, Sargent's List. T. & S. Mfg. Co. torcelain Head, Sargent's List. "Judd's List. torcelain Head, T. & S. Mfg. Co.
Sentucky "Star"	olt's Fistol,	\$1.29 	Francets.	dis 40 % dis 45 %	Grub Planters' Scovill Pattern, Scovill Pattern, Handled Hick's Pat, Solid C. S. Planters' Scovill Pattern		EPI m Rr I m mr I m m m m .
Fodge's Gentine Kontucky, new list-	olt's Pistol, naket, 1-10 B. 1-10, Trimmed. B. 1-20 Ground Ed.	648 dis solt :	Star	dia a di	Hick's Pat. Solid C. S. Pianters' Scoviil Patters Winsted & Lane, Planters Scoviil Pattern		Piniting Machines.
Yaw's Genuine	Cartridges, Metallic	dis 60@ro&s \$	West's Patent Key detallic Key, Leatner L Cork Lined	ined die as # 1			FOWE PLANTING MECHINGS
. Wilson a Choose specification and	otion Fool	6.25 each, dis 20 %	Felloe Plates	¥ % 150, tils 55 %	Directage, Sargent's int. Cotton, Patented (N. Y. Mailet & H. Cotton (Humason & Beckley Mfg. Belt, new list) Fc. Bench-Hotchkiss' 8,00 F doz. Weston's, No. 1, \$10.00; No. MG011's, \$10.00 F dos. Skinner's, \$6.25 per dos.	andle Wks), dis 30 % Be	Oin, 80.00 ioin, 81.00 each Planes and l'inne i Frous. ench, First Quality dis 30 (Extra " Second" dis 40 (Extra ideva Staniev R. & L. Co.) new tist Jan." allev's "Karalev, new list. lane Irons, Butcher's. Buck Bros.
Bellows. Le Esmiths', Common	('arpet Stretchers. ast Steel, Polished	doz \$5.00, dia 50 \$	Miles.	#\$.00 to £, dis 35 £ #\$.00 to £, dis 25 \$ dis 25 £ (Nicholson List) dis 25 \$	Bench Hotchkiss' \$5,00 F doz Weston's, No. 1, \$10.00; No.	1, \$0,00 ₩ dez dia 25 % B	niev's (Staniey R. & L. Co.) new tist Jan.' ae Stanlev (S. R. & L. Co.) alley's "Victor"
aulders die 20 %	Casters. ed		icholsonteller & Bros		Cityleness with the there a state	dis 20 %	ane Irons, Butcher's
elting. Mubber. Y. Belting and Packing Conew list net	eep Socket	dis 204210 \$. & Riley Carrohnson & Bro	4.50 to £	Ceiling) Sargent's list	dis 33 se to s	Buck Bros. Auburn Tool Co. s. Bonance. Middletown Tool Co. Spear & Jackson's. Byear & Jackson's. Sandusay Tool Co.
tit fiolders. (tension, Barba: 's	Cattle Lenders. otchkiss' Sons' umason. Beckley & Co.'s (low list). recent's	dis tokto %	Volter Spencer & Co.'s	"Diamond" 4.50 to £ 4.50 to £ 4.50 to £ 4.50 to £ 4.50 to \$	Reading. T. & S. Mig. Co's list Fassel (T. & S. Mig. Co). Wrought Stables and Hooks and Sts		# Bpear & Jackson's
" Ives". # doz \$15.00—dis 40 % agonal. # doz \$21.00—dis 40 % Iyular. # doz \$24.00—dis 40 %	Chair. Tace, by -1 +2. " 656-10-3. " 7-10-2. Erman Halter Chain, New list Oct. 2: " Coll. New list Oct. 2: "0.	pair 790	I. Disston & Sons (new Vestern (new list) Vestern "Economy"	dia 25 %	Staples, Stanley's list		Piters and Nippers. atton's Patent. all's Patent Nippers, No. 1, \$10; No. 2, \$21 i umayon & Beckley Mfg. Co.
Blind Adusters.—Domestic	7-Io-2 erman Halter Chain, New list Oct. 2: Coll. New list Oct. 2: 200	Dair 86c) 1 2, '75 . dis 40@ 44.2 I			White screw Hooks and Lyes, new 19 Strass and Bush	otto E. Con a I Day	awalta Dilawa and Missana
Dillie Partine and All and the Co	wert Haiter, Hitching and Brenst	clin or 6	Muting Machines.		Horse Natis	B Q IO	ussell's Parailel S. & W. Cast Steel "End Cutting Nippers
	neida Haiter Chain				"Finished, Polished	246 236 226 dls	Plumbs and Levels.
ckrell's V doz. pairs, \$0.65, dis. 10 % W	hite				Or Blued 910 280 260 C 60 50 40 26 24 22 21 20 108 1 2 3 4 5 6 7 8	19 18 18 18c dis 9 10 11 12 11 5 Ch	sston's
rbed, 16 in. and larger. W Bigc net W	ne. hite Crayons	W gross 140 het C	rown. 4%-in. \$3.40;6-in tar	### 15. 4. 4. 4. 4. 4. 4. 4. 4. 4. 4. 4. 4. 4.	Horse Nails "Usable	210 200 190 180 Sta	Non-Adjustable. andard Hule Co.'s Now Adjustable. Non-Adjustable. halon's Patent Adjustable.
Terential Fulley Blocks	cket Framing, Crossman. Buck Bros. Buck Bros. Merrill Witherby Tool Co	dis 70 %	eneva tiand Fimer. No				B. d. b. 190 A. C. S.
meld Block Works, Rope and Iron Strap'd. dis 40 g	Firmers, Crossman			A I WIL COLD STREET BEING	Polished, Pat. Fin 28 24 29 Putnam Hammer, P't'd 28 25 29	22 21 200 net Sai	Post Hole and Tree Augers. mson Post Hole Diggerper doz \$2 stone Post Hole Augers w doz 3 nughan a Post Hole—
" " all steel roll'r.dis 10 % " Sheaves " " dis 35 % thiey R. & L. Co., Rope and Iron Strap'd. dis 35% 10 %	" Witherby Tool Co	dis 70 % C	lark's Hand Fluter ombined cluter and sa	8., 18 50; No. 100, 80 % doz net	tierse Shoes.—Burden	oved Light, Lee	ughai. 2 Post Hole— in. \$250; 7, 8 and 9 in. \$25 per doz. ed's \$5.00 e ireka # dox 84
thies R. & L. Co., Rope and Iron Strap'd. dis 35&10 f	Corner Douglass'	dis 55 % B			erkins' Snow	B kee 4.6244	Potato Parers. &c. * doz * aratoro " Pecier and Slicer * doz *
st iron Barre!, Shutter. &c	Corner. nged Firmers extra. Butcher's Seear & Jackson's. Buck Bros (Shank).	#5.00 @ #5.25 to £ 5.00 to £ 5.00 to £	Forks.	ng new list, dis 15 5 N	ce Awis, Chisels, &. American Ice Chisei ational ovelty Ice Breakers. Thite's Sidning Head Picks. Good stead Picks, Sargesty's Gos Mallets Pick in Head. Pick in Handle Pick as Small, Cast or Malicable, itchen Ice Tongs.	# doz \$6.25 dis 20 \$ Di	Pruning Hooks and Shears.
	on, Providence Tool Co.'s, Wrt. Iron Adjustable, Gray's	dis 25 %	" Reed & Harton	no	Vhite's Sliding Head Picks	# dos \$2.cc dis 40 %	" Pruning Hook per dos 81 uning Shears doz 84.
Shutter, all Iron, Stanley's listdis 50 %	Adjustable, Gray's. Lambert's. Snow's. Hammer's.	dis 20 % E	Fry Pans.	dis 20 5	ron Floks, Sargent's Fdos ce Mallets Pick in Head.	1.84, dis fo&ro&ro \$ 2.84, dis fo&ro&ro \$ P dos 1.75 net Bo	Pulleys. t House and Tackie p'd Strew
4	Cabinet Sargent's	dis 15k10 % N	O 0 I 2	3 4 5 0 7 8	ce Axes Small, Cast or Malleable.	dos seo net Bri	
Sargent's list dis tokto \$	Carriage Makers', Sargent's	dis tokto 4	doz\$3.00 \$3.75 4.25	4.75 5.25 0.00 7.00 8.00 0.00 E	ombination Lee Tools	OR \$2 to die not the	Clothes Line
Sunk Flush, bargent's dis 60stro g Stanley's dis 30 g	Lambert's. Snow's. Hammer's. Stearns'. Cabinet, sargent's. Carriage Makers', Sargent's. Cord and Tape (T. & S. Mig. Co.). Clips. Axie. rway or Best.	dis took 10 %	doz\$2.00 \$3.75 4.25 cme l'atent, same list a l'auges. I liarking, Stanley's	S above	itchen ice Tongs. ombination ice Tools	los \$2, to dis solt to \$	of Bide Clothes Line Clothes Line Clothes Line Clothes Line Clothes Line State Factor State Stat

	sale Prices, N	0
2 2		95 %
× × × ×	Ale and Beer dis Coffer Mills. Beard and Box dis	50 % 30 %
N N	Coffee Mills. Board and Box. dls Increase Wilson's. Selsor's Pat. Selsor's Pat. \$9,50,\$10,50, dls American (Enterprise Mfg. Co.). dls French Steel. dls The Swift (Lane Bros.). dls	25 % 20 %
×	Per doz \$15.00	90 %
1 1 1	Compassesdis sok	10 %
r g	Dividers	55 % 55 % 60 %
×	Cook's	10 % 15 % 15 %
×	Coepers' Tools. Bradley'sdls 1(@: CorkscrewsHumason & Bdls 3) Corn Knives and CuttersBradley'sdls 4(%) Wadsworth'sdls 3(%)	80 S
K	Urow Bars,	- 1
7 7 7	Cast Steel. # 5 7 Iron. Steel Points. # 5 7 Curling Irons, &c. 45, % in. \$1.80 2.00, 2.40	Me 10 %
*	Unring Irons, dcc. 5, %, % in. \$1.80 2.00, 2.40 Curling longs. \$\psi\$ dos \$2.60, dis. Pinchina irons. \$\psi\$ dos \$7.50, dis. \$\psi\$ (list of No. 240. \$\psi\$)	0%
£ 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	Lawrence. dis 4 Lawrence, with detachable Mane Comb. dis 33 Rubber. w dos \$9.00, dis 23	0%
8	Curtain Pins,—Silvered Glass	5 %
5	Cutlery Co. (Table). Meriden Cutlery Co. (Table). M. Miller Bro. & Cutlery Co. dia 2 Humason & Beckley. Pocket dia 2 F. W. Rogers & Son, A. A. dia 2025. Nauzatuck Cutlery Co. list n Aaron Burkinshaw's Pocket dia 2 Deg Collars.	5 % 5
	Aaron Burkinshaw's Poeketdis 2: Dog Collars. Embossed Gilt	3 5
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Sash Weights.—Solid Eves	Traps. Game, Newhouse
Naturage Stuffers or Filters. H doz \$20, dis 30 ferrer. Miles. P doz, No. 1, \$15; No.0, \$27, dis 30,810 ferrer. P doz, No. 4. Sach \$30,000, dis 20 ferrers Mrg. Co.	** Round Wire \$\psi\$ dos \$1.50, dis ** Cage ** ** Catch-em-alive \$\psi\$ dos \$2.75, dis **Catch-em-alive \$\psi\$ dos \$2.75, dis
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Family Universal	
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Machine, Flat Head, Iroz, Am. Sercw Co. dis 6, 7 dis 60, 7 dis 60, 7 dis 60, 7 dis 6, 60, 7 dis 6, 60, 7	Girard Standard. dis 75%10 Girard Standard. dis 50%10 Girard Agi.
Wood, Beech	Bemis & Call's Patent Combination dis 2 Bemis & Call's Patent Combination dis 2 Merrick's Pattern dis 40&
"Humason, Beckley & Cosdis 40 % Jack Civilian	Wrenches American Adjustable dis 4 Bazter & Adjustable "s." dis a Collina & Coronal dis collina "Mechanics" dis collina "Pattern, Malicable dis collina Girard Agl. Davis Patern Doplex acw list, dis a Bemis & Call's Patern Combination dis a Bemis & Call's Patern dis acw sist, dis a Collina dis collina dis collina dis acw sist, dis a Collina dis collina dis acw sist, di
Screw Window Balances. R. E. Hugunin's, Single g. o., \$23.04; 5 gro. \$22.68, dis 5 %	The Favorite Pocket (Bright)per doz \$8, dia 60 Webster's Pat. Combinationdis 35
Shears and Scissors.—New list, Nov. 25, 1879. Cast Steel	Peerless, No. o, no Cogs
Shears and Scissors.—New list, Nov. 25, 1879. Cast Steel	No. 2, 63. No. 3, 7L. No. 4.
Larnurd's Lamp Trimmers. # dos #3.75 Tinners' dis 20 % Heinisch Trimmers and Scissors. dis 65 %	Unique, No. 6
Sliding Door, M. W. & Co., list	NO. 2
Patent Roller	No. 8
Sheaves. Siding Door, M. W. & Co., list. dis gaide2 2 R. & E. list. dis ook 2 Patent Roller dis ook 2 Ratheld's dis 50k 2 Russell's Anti-Friction dis 50k 10k 2 Russell's Anti-Friction dis 50k 10k 2 Siding Shutter. R. & E. list. dis 55k 10k 2 Siding Shutter. R. & E. list. dis 55k 10k 2 Soore's Anti-Friction dis 50k 2 Soore's Anti-Friction di	Crown No. 2
Philadelphia Hanging. dis 40 %	Eureka, No. 1. 57.4 Novelty, No. 10, with Cog Wheels. 57.4 No. 2. 60.2
Shovels and Spades. Ames. New list, Jan. 1, '99, with changes of Oct. 14 Glis 20 5 Hussey Binns & Co., Pateng. dis 15 5	Excelsior, No. A, with Folding Bench
Ilussey Binn & Co. Patent dis 20 % Ilussey Binns & Co. Patent dis 15 % Old Colony (changes in list Oct. 15, 79) dis 20 % Remington's (Lowman's Patent), dis 20 % Bernington's (Lowman's Patent), dis 20 % Dunning's Showels and Scoops dis 20 % **Patent dis 20 % **Patent dis 20 % Oxford Patent dis 20 % Oxford Patent dis 20 % **Control Patent dis 20 % **Control Patent dis 20 % Oxford Dis 20 % Oxford Dis 20 % Oxford Patent dis	Webster's Fat. Combination. dis 35 Wringers. Fer do Peerless, No. 0, no Cogs. 4. No. 1 No. 24 No. 24 No. 25 No. 35 No. 35 No. 35 Unique. No. 6 No. 15 No. 1
Oxford Patent dis 405 5	Stamped Tinware.—New List Dec. 1, 1878. Common Stamped Ware

Oxford Patent.

PLANISHED, TINNED, NICKEL PLATED.

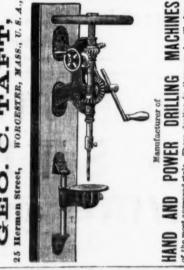
PHILADELPHIA.

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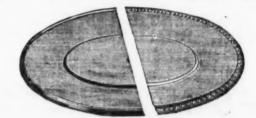
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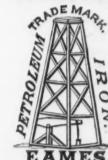
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These Blooms are made from selected wrought scrap with petroleum fuel; can be used for making crucible steel, tack plate, horse shoes, boiler flange from, &c., or for any purpose requiring a neutral, tough and uniform from.



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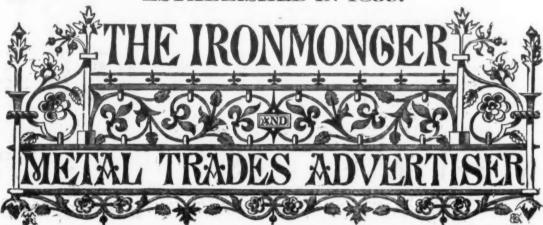
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OFFICE: 44a CANNON STREET, LONDON, E. C.

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is published every fourth week in connection with the extensive and world-wide circulation of the Ironmonger itself. The dates of its publication in 1879 will be as follows:

JANUARY 11, FEBRUARY 8, MARCH 8, APRIL 5, MAY 3 and 31, JUNE 08, JULY 26, AUGUST 23, SEPTEMBER 20, OCTOBER 18, NOVEMBER 14,

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of the world, including English, and is sent to all the countries where they are spoken, thus placing the contents of the Ironnonger not only within reach out in the native language of eighty millions of German, forty-two millions of French, twenty-eight millions of Italian, and fifty-one millions of Spanish speaking people; or, in all, over two hundred millions of inhabitants in the principal nations where the best purchasers of manufactured goods are to be found. Advertisements are inserted in any language at the following

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THE WHOLE FOREIGN HARDWARE TRADE,

so far as our experience of twenty years is concerned, will be covered by THE FOREIGN SUPPLEMENT at least twice a year. Thus a Price List or Advertise ment inserted in the Ironwonger and Foreign Supplement is a strikingly powerful and most efficient way of publicity, not to be compared with any of the other ordinary channels of communication.

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Twenty years' practical Experience.

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For Bolling Mills, Blast Furnaces. Foundries, Gas Works, Lime Kilns, Tanneries, Boller and Grate Setting, Glass Works, &c. FIRE CLAYS. FIRE SAND. AND KAGLIN FOR SALK.

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THE STORE-HOUSE BUCKET.

(Partial straight front.)
In 19 in., 14 in., 16 in. and 17 in. Sizes.

Made of Best Charcoal Stamping Iron. No Corners to Catch.

Light Running and Very Durable. The only Scientifically Constructed Elevator Bucket in the Market.

T. F. ROWLAND,

Sole Manufacturer,

CONTINENTAL WORKS, Brooklyn, E. D., N. Y.



MILL BUCKET.

In 3% in. to 10 in.

NICHOLSON FILE CO., FILES AND RASPS.

Filers' Tools & Specialties.

Manufactory and Offices at Providence, R. I.

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INTERNATIONAL EXHIBITION.

PHILADELPHIA, 1876.



The United States Centennial Commission has examined the report of the Judges, and accepted the following reasons, and decreed an award in conformity therewith.



PHILADELPHIA, May 4th, 1877.

REPORT ON AWARDS.

Product, Files and Rasps.-

Name and Address of Exhibitor, Nicholson File Company,

-Providence, Rhode Island.-

The undersigned, having examined the product herein described, respectfully recommends the same to the United States Centennial Commission for Award for the following reasons, viz:

Being exceedingly well cut and of excellent material.

Daniel Steinmetz, of Pha Signature of the Judge.

APPROVAL OF GROUP JUDGES.

J. D. Imboden. Chas. Staples, Jr., " Portland, Me. G. L. Reed,

of Richmond, Va. " Clearfield, Pa.

" Germany. J. Diefenbach, David McHardy, " Great Britain.

A true Copy of the record.

Francis A. Walker, Chief of the Bureau of Awards

Given by authority of the United States Centennial Commission.

A. T. Goshorn,
DirectorGeneral.

J. L. Campbell,

Stal.

(21)

J. R. Hawley, President,

Bradley's Edge Tools.

Butchers' Cleavers. Axes and Hatchets. Grub Hoes and Mattocks, Mill Picks, Box Chisels and Scrapers,

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Clock Springs and Small Springs BRISTOL, CONN.

Torrey's Door Springs. P. R. DUNNE,



November 27, 1879.	
PHILADELPHIA.	Spoons. Plated
(Corrected Weekly by Lloyd, Supplee & Walton.) Terms, 30 days. For 60 or 90 days, interest added at 10 per cent. per annum.	Speens
Anvils. Peter Wrights, ₩ b	by case
Eagle (American)	Gem Coil No. 1, Large Jap'd
" No. 75. " 7.50 net " No. 78. " 7.50 net Peach Parers " 15.00 net Little Favorite, corer and slicer " 7.50 net	Stove Polish.—Gem. # gross, \$4.50, dis 5
	Stove Polish. Gem P gross, 84.40, dis 70
Mann's Red Warrior per doz. \$5.00 net Red Indian	Genuine Oneida—Newhouse
Crown Prince. Augers and Augers. Bates Nut Augers. Cook's Augers. Gis 405 Watrous' Ship Augers. Gis 505 Griswold Auger Bits. Gis 505 Griswold Auger Bits. Gis 505 Jennings' Soney's Pat. Hol. Augers, list \$45 \times doz. Steams' Pat. Hol. Augers, list \$45 \times doz. Gis 505 Steams' Pat. Hol. Augers, list \$45 \times doz. Gis 505 Steams' Pat. Hol. Augers, list \$45 \times doz. Gis 505 Steams' Pat. Hol. Augers, list \$45 \times doz. Gis 505 Steams' Pat. Hol. Augers, list \$45 \times doz. Gis 505 Steams' Pat. Hol. Augers, list \$45 \times doz. Gis 505 Steams' Pat. Hol. Augers, list \$45 \times doz. Gis 505 Steams' Pat. Hol. Augers, list \$45 \times doz. Gis 505 Steams' Pat. Hol. Augers, list \$45 \times doz. Gis 505 Steams' Pat. Hol. Augers, list \$45 \times doz. Gis 505 Steams' Pat. Hol. Augers, list \$45 \times doz. Gis 505 Steams' Pat. Hol. Augers, list \$45 \times doz. Gis 505 Steams' Pat. Hol. Augers, list \$45 \times doz. Gis 505 Steams' Pat. Hol. Augers, list \$45 \times doz. Gis 505 Steams' Pat. Hol. Augers, list \$45 \times doz. Gis 505 Steams' Pat. Hol. Augers, list \$45 \times doz. Gis 505 Steams' Pat. Hol. Augers, list \$45 \times doz. Gis 505	Wrenches Agricultural. dis 70.
Griswold Auger Bitsdis 40&10 % Cook's "dis 50 % Jennings' "dis 10, 10&10 % Ronney's Pat. Hol. Augers, list \$45 \(\pi \) dozdis 40, %	Mall. Bar
Light and Commondis 20&20 \$	Wire, Bright or Ann'd, No. o to 18
Bells. Bevin Bros. Mfg. Co. Light Hand Bellsdis 70 % Swips Pattern Hand Bellslow list dis 50 % Conneil's Door Bells	Galvanized, No. 7 to 18Market List, dis 37% Wringers.—Novelty No. 10
Gt. Western & Kentucky Cov, new listdis 5,085 % Bolt and Rivet Clippers Chambers No. 1. for % bolteach, \$7.50 \ No. 3. 156	Universal No. 2\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\
	PITTSBURGH.
Upright, with Augers. List \$8.50 dis 40 \$	Merchant Iron. TERMS.—Note or acceptance at 50 days, with curren rate of exchange on New York, or a discount of 2 pecat. for cash, if remitted within 10 days from dat
Boirs.—Eastern Carriage Boirs. dis 70&5 %, cash Philadelphia new list dis 60&5 % Stanley, Wrought Shutter dis 50 % Hences.—Barber'r dis 40&5 %	of invoice.
Braces Barber' dis 40&5 % Rackus dis 50 @ 50&10 % Spoffard dis 50 @ 50&10 % Spoffard dis 50 % 0 & 50 % Spoffard dis 50 % 0 & 50 % Spoffard dis 50 % 0 & 50 % Spoffard dis 50 % d	134 to 4 by 34 to 1 inch
American Ball Butts.—Cast Fast Joint, Narrow dis 10% to \$ Cast Loose Joint dis 10% to \$ Cast Loose Pin dis 10% to \$	1 and 134 by % to %
" Acorn, Loose Pin	78, 78 and 78 o 78
Table Hinges and Sack Flapsdis 55 % Narrow, Fast	Light Bands, 3 to 6 by 16 to 3-16
Blind Butis dis soato \$ Parker dis soato \$ Clark dis soato \$ Shepard dis dotto \$ Lul & Porter dis 66% ato \$ Huffer's dis 40% Chates German Halter and Coll. naw list Oct. 22.	11/6 to 28/6 by 1/6 to 3-16
	98 and 16 by 16 to 3:16. 2 to 6 by 16 to 3:16. 3 to 6 by 16 to 3:16. 16 to 26 by 16 to 3:16. 16 to 26 by 16 to 3:16. 2.5 16 to 26 by 16 to 3:16. 3.5 1 to 19 by 16 to 3:16. 3.7 1 to 19 by 16 to 3:16. 3.7 1 to 19 by 16 to 3:16. 3.7 2 and 4 by 16 to 3:16. 3.8 3.9 3.9 3.9 3.9 3.9 3.9 3.
Chains German Halter and Coll. new list Oct. 22, 1879	Hoop Iron. 54 and 9-16, Nos. 13 to 16
Chisels.—Socket Framing	1 and 1910, 13 to 15
Platedis 30&10 \$ Coffee Mills.—Box and Sidedis 20 \$ Enterprisedis 20 \$	% and 11-16. " 17 to 20
Cutlery.—Walden Pocket	2)4 to 3)6. 1-100 * b extra for each gauge lighter than above indicated. Rounds and Squares.
1879 dls 40 6 45 5 6 64 5 6 64 5 6 64 5 6 64 5 6 64 5 6 64 5 6 64 5 6 64 5 6 64 64	1 to 176
Fry Pans. Tinned	4 to 5 4
Burnished	\$4 to 14
Nicholson	% to 114 by \$-16 to 74 inch. 40 Wagon Box Iron. 40 Vagon Box Iron. 40 Vagon Box Iron. 40
Finting Machines.	Wagon Box Iron.
Earle—3\(\) in. rolleach, \$2.15, dis 10 \(\) = -5\(\) in. roll	Sheat from. Common. Charcoal. Juniati
Eagle—34 in. roll	Suniata 30
F0 2 3 4 5 6 7 8	Suniata 30 ₹ 8 over American. Sheet Iron. Charcoal. Juniata No. 10 to 14. S.80 S.30 6.3 6.3 No. 18 to 17. 4.00 5.30 6.3 No. 28 to 24. 4.50 6.50 7.4 No. 28 to 24. 4.50 6.30 7.3 No. 28 to 24. 4.50 6.30 7.3 No. 28 to 25. 4.70 7.3 No. 28 to
Yerkes & Plumb's	Saces 170% Charcoal Juniate No. 10 to 14
Yerkes & Plumb's	Sheet From Charcoal Juniate Sheet From Charcoal Juniate No. 18 to 17.
Yerkes & Plumb's	Sheet From Charcoal Juniate Sheet From Charcoal Juniate No. 18 to 17.
Yerkes & Plumb's. dis 20 \$\frac{1}{2} \text{Hatchets} \tag{ dis 20 \$\frac{1}{2} \text{Hatchets} \tag{ dis 20 \$\frac{1}{2} \text{Hunt} \tag{ dis 45 \$\text{Rto} \text{ dis 45 \$\text{Rto} \text{ dis 20 }\text{ dis 20 } di	Sheet From Charcoal Juniate Sheet From Charcoal Juniate No. 18 to 17.
Yerkes & Plumb's. dis 20 \$\frac{1}{2} \text{Hatchets} \tag{ dis 20 \$\frac{1}{2} \text{Hatchets} \tag{ dis 20 \$\frac{1}{2} \text{Hunt} \tag{ dis 45 \$\text{Rto} \text{ dis 45 \$\text{Rto} \text{ dis 20 }\text{ dis 20 } di	Sheet From Charcoal Juniate Sheet From Charcoal Juniate No. 18 to 17.
Varkes & Plumb's dis 20 \$ Hatchets dis 20 \$ Hatchets dis 20 \$ Hatchets dis 20 \$ 5 Hunt dis 20 \$ 1 Hunt d	Sheet From Charcoal Juniate Sheet From Charcoal Juniate No. 18 to 17.
Varkes & Plumb's dis 20 \$ Hatchets dis 20 \$ Hatchets dis 20 \$ Hatchets dis 20 \$ 5 Hunt dis 20 \$ 1 Hunt d	Saces From Charcoal Juniate Saces From Charcoal Juniate No. 15 to 14
Varkes & Plumb's dis 20 \$ Hatchets dis 20 \$ Hatchets dis 20 \$ Hatchets dis 20 \$ 5 Hunt dis 20 \$ 1 Hunt d	Saces From Charcoal Juniate Saces From Charcoal Juniate No. 1c to 17.
Verkes & Plumb's dis 20 S Verkes & Plumb dis 30 S Yerkes & Plumb dis 20 S Verkes & Plumb dis 20 S Verkes & Plumb dis 20 S S S S S S S S S	Solution Solution
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Verkes & Plumb's	So. 10 to 14 Sab S. 30
Verkes & Plumb's	So. 10 to 14 Sab S. 30
Verkes & Plumb's	So. 10 to 14 Sab S. 30
Verkes & Pumb	Solution Solution
Varlee & Plumb's	So. 10 to 14 Sab S. 30
Varkes & Plumb's	So. 10 to 14 Sab S. 30
Varkes & Plumb's	So. 10 to 14 Sab S. 30
Verkes & Plumb	Solution Sab
Varies & Plumb's	Solution Sab
Varies & Plumb's	Solution Sab
Value & Plumb	So. 10 to 14 S. 26 S. 30 S. 30
Varlee & Plumb	So. 10 to 14 Sab S. 30 6.1
Verkes & Plumb	So. 10 to 14 Sab S. 10
Varies & Plumb	So. 10 to 14 Sab S. 30 6.1

T	HEIRO	N	£	7 (À .
ks #	Best Refined Co	not Si	teel.		
15 % 15 % 15 % 10 %	Square, Flat, Octagon % to 2 in	and 4	Round 14 5 in	in	140
net	% to 2 in	in lers, E	nife,	rap, D	ie,
25 % 35 % dis	Machinery 5	Stant.			
10 %	Octagon. 5-16 and 214 to 3 in 8c 3-16	and s	36 to 6	in	120
85% 10% not	Cast Spring Steel. 1 to 4x14 to 14 in 60 34 1	to 3x5	-32 to	-16 in 3-16 in	. 80
net 40 %	Ordinary sizes, % to 2 in., Rour Octagon. 	tra.	lassific	ation	•
40 % net &5 %	Agricultural	Steels.			
30 %	Soft Steel Center Plow, 4 to 15x3-1 Landside and Cultivator, C. S.,	16 to % 13-16 to 16 in.	% in. thick		8360 8360
35 % 70 % 60 %	Soild Cast Steel Plow, 4 to 16 by "Iron Center Plow," 4 to 16 x3-50t Steel Center Plow, 4 to 16 x3-50t Steel Center Plow, 4 to 16 Landside and Cultivator, C. S., Circular Plow Coulters, 5-32 to Scythe Back. Fork and Rake. Horse Rake Teeth, to length	34 In. 1	nick.		7 0
10 % 10 % 25 %	Fork and Rake Horse Rake Teeth, to length Finger Bar Cornstalk Cutter beveled Planters' Hoe, C. S Hoe, C. S				7560
N N	Hoe, C. S			******	6/60
**************************************	ist qual. 2d qua	L 3d	qual.	Besse	mer.
net	10 to 20 gauge 13C. 11C. 21 to 26 gauge, 10. extra for et Beveled Hoe and Shovel Steel,	ach ad	dition	al gau	ge.
met					
net net net	Furnace, Floor and Straighten Housings and Castings not oth Guide Plates	ing Pla	ates speci	ned	3160
	Spindles and coupling boxes Sand Rolls and Pinions, large a " small size.	size			.3140
rent	Furnace. Floor and Straighten Housings and Castings not oth Guide Plates Spindles and coupling boxes. Sand Rolls and Platons, large a small size. Pipe Mill Castings under so Spur and Bevel Wheels, large. "Over 30 inches" Over 30 inches Engine Castings, light Chilled Ro	lbs			.3 0
per late	Pulleys up to 30 inches				-4 6
3.00	Engine Castings, light	Da.		******	-4340
3.00 3.10 3.40 3.10 3.20 3.40	6 to 7 in. diam., 7 to 20 in. lon 8 to 15 in. 6 8 to 40 in. 6 15 to 24 in. 6 15 to 72 in. 6 24 to 31 in. 6 72 to 108 in. 6	ıg			4940
	24 to 31 in. " 15 to 72 in. " 12 to 108 in. "	*****			4940
3.20 3.20 3.30 3.50 4.00	Juniata Horse Shees		-		84.00
	Steel Tee Calks ec per lo.	, less	dis. or	quan	title
3.30 3.50 3.50	White and Re Strictly Pure White Lead in 500 % and over, 85c; less the	Oil, in	kegs	in lo	ts of
3.70	Strictly Pure White Lead in 500 B and over, 8%c; less tha B Tin Pails, %c. W B over Pails, 10 W B over keg price B Cases, 110.	r keg assor	price ted, 1	lala i	b Tit
4.00 4.90 4.40 4.70	Dry White Leadless than 500 li Orange Mineral, genuine, in k Red Lead, very brilliant.	bs., 8;4 egs, 10	c; ove	r soo lib parrels	8.7%
	Palls, 10 # S over keg price. B Cases, 11c. Dry White Leadleas man sool orange Mineral, genuine, in k Red Lead, very brilliant, "Litharge (Potter's Lead)" Terms: Note at sixty days, of from date of invoice, a discou	r ir pa	id wit	hin 15	day
5.70 5.20 4.70	be allowed, but not otherwise. Window G	lass.	on pos	COME	****
3 98	Per Box of 50 Feet	-Diaco	unt to	% .	
5.00 4.60	Single Stren	AA.	A.	В.	C.
4.1C 4.0C	6 x 8 to 10 x 15	\$8.25 9.25	\$7.50 8.50 9-75	\$7.00 8.00	86.50 7.3
3.20	18 X 22 to 20 X 30, 15 X 36 to 24 X 30, 26 X 36 to 24 X 36, 26 X 36 to 36 X 44, 26 X 46 to 30 X 50,	10.75	11.50	0,00	7.3 7.7 8.4 9.0
3.40 3.40 3.60 3.80 4.00	26 X 36 to 36 X 44	14.50 15.00 10.00	13.25 14.00 14.50	9-75 10-75 11-24 12,00	9.4 10.4
	30 X 53 to 30 X 54	17.25 18.25 20.75	17.25	13.50 15.00 17.25	
3.80	Double Strength. 6 x 8 to 10 x 15	12.75	83.75	10.75	10.00
4.50	15 x 22 to 20 x 30	17-25 19-75 21-00	17.35	14.00	
4.00	26 X 36 to 26 X 44	23.25 24.00 25.75	21.25	15.75 17.25 18.00 19.25	
iata.	6 x 8 to 10 x 15. 11 x 14 to 16 x 24. 18 x 18 x 22 to 20 x 30. 15 x 35 to 24 x 30. 26 x 26 to 24 x 36. 26 x 35 to 36 x 44. 26 x 46 to 30 x 50. 30 x 35 to 30 x 54. 50 x 56 to 34 x 56. 36 x 6 to 40 x 56. 36 x 6 to 40 x 56. 36 x 6 to 40 x 56. An additional to per cent.	25.75 27.75 29.25 33.25	23.25 25.00 27.75 30.00	21.75	
6.30 6.50 6.80	An additional 10 per cent. glass more than 40 inches wi inches in length and not maki inches will be characteristic.	will tide. A	oe cha	rged f	or al
7.00	inches, will be charged in the	ng mo la unite	re thi	m 81 u des bra	nited
7.40 7.80 1de,	HYATT'S PATENT	Sbi	RING	RO	IT
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.3.8e .4.00 .4.30	, , , , , , , , , , , , , , , , , , , ,	(Marie	=7	- 91	7
4.00				-	

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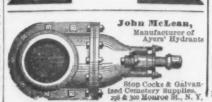
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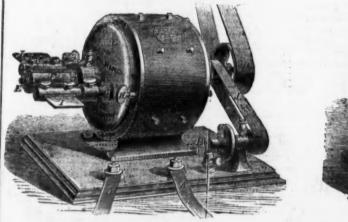


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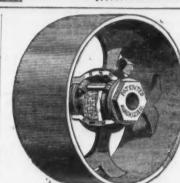
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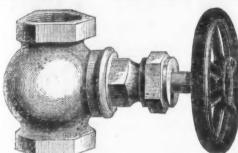


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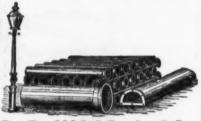
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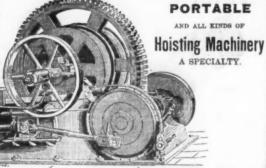
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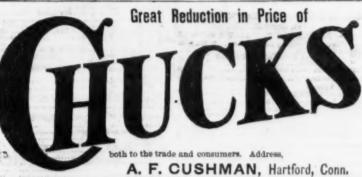
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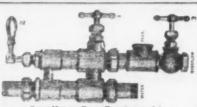
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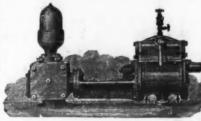
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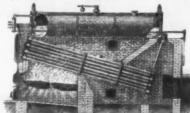
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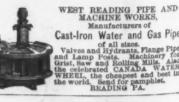
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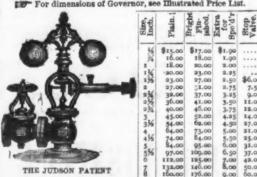
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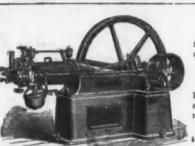
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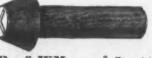
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